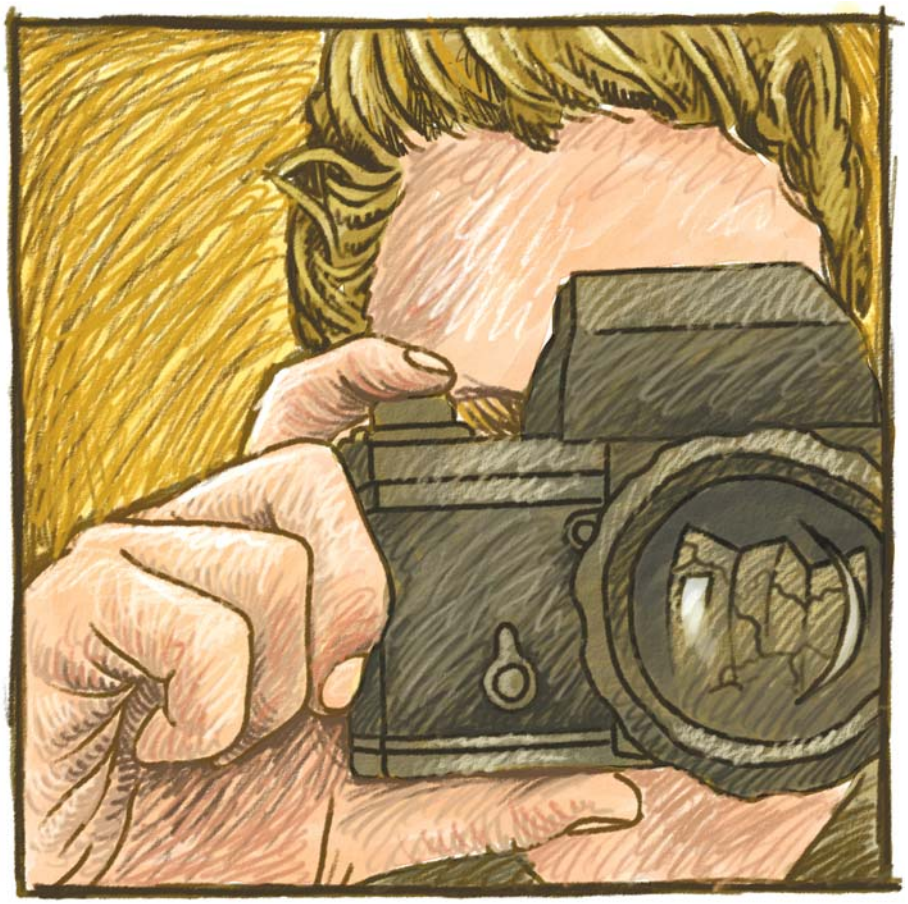
Environmental Snapshot of South Eastern Europe

REReP Country Profiles



REGIONAL ENVIRONMENTAL CENTER

NORWEGIAN MINISTRY OF FOREIGN AFFAIRS

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REReP Country Profiles

Editor
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Szentendre, Hungary
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REGIONAL ENVIRONMENTAL CENTER

MILJØVERNDEPARTEMENTET
Norwegian Ministry of the Environment

About the REC

The Regional Environmental Center for Central and Eastern Europe (REC) is a non-partisan, non-advocacy, not-for-profit international organisation with a mission to assist in solving environmental problems in Central and Eastern Europe (CEE). The REC fulfils this mission by promoting cooperation among non-governmental organisations, governments, businesses and other environmental stakeholders, and by supporting the free exchange of information and public participation in environmental decision making.

The REC was established in 1990 by the United States, the European Commission and Hungary. Today, the REC is legally based on a charter signed by the governments of 28 countries and the European Commission, and on an international agreement with the government of Hungary. The REC has its head office in Szentendre, Hungary, and country offices and field offices in 16 beneficiary countries which are: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, the former Yugoslav Republic of Macedonia, Poland, Romania, Serbia and Montenegro, Slovakia, Slovenia and Turkey.

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Foreword from the European Commissioner for Environment

The Stabilisation and Association Process (SAP) undoubtedly constitutes the key policy framework for achieving stability in the South Eastern Europe region through steadily closer association with the European Union and the clear prospect of membership.

The efforts carried out by the countries in the past years have already yielded significant results. The region is becoming more stable and its countries are engaged in ambitious political and economic reform programmes based on EU law and practice.

In this context, the regional approach is essential to address the problems faced by the South Eastern Europe countries. The Regional Environmental Reconstruction Programme has played a significant role in helping these countries to work towards common goals. Since its launch in 2000, the Regional Environmental Reconstruction Programme has successfully carried out a number of initiatives, ranging from strengthening environmental compliance and enforcement to supporting the environmental NGO movement or enhancing cross-border cooperation.

Of course, there is still a long way ahead of us to attain EU environmental standards for all South Eastern Europe citizens, but the process is well underway and the results obtained so far reflect the motivation and dynamism of both the EU and the countries concerned.

I welcome this publication as a tool giving us a better knowledge and understanding of the environmental state of play and priorities of the South Eastern Europe countries and thus helping us to target our future actions in the region.

Stavros Dimas
Commissioner
Brussels
March 2006

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Introduction

This publication provides a snapshot of the environmental situation in those countries which are part of the Stabilisation Association Process (SAP), focusing on the priority areas identified by the Regional Environmental Reconstruction Programme for South Eastern Europe (REReP). It builds upon the first REReP publication, *Regional Environmental Reconstruction Programme (REReP): Building a Better Environment for the Future for South Eastern Europe*, (REC, 2001).[1] Structured identically to those previous, these updated environmental country profiles address the REReP priorities, aiming to present information in a concise and understandable form, highlighting progress and achievements. The country profiles also complement the recent publication *Environmental Reconstruction and EU approximation in South Easter Europe*,[2] which covers REReP achievements in 2003-2005.

A short description of current environmental conditions including information on soil, forests, agricultural land, water, air and biodiversity is given at the beginning of each profile. An overview of national environmental priorities, economic instruments for environment, and the progress of relations between each country and the European Union is provided. Croatia and the former Yugoslav Republic of Macedonia are already EU candidate countries and Albania, Bosnia and Herzegovina, and Serbia and Montenegro are also moving steadily on the path to concluding Stabilisation and Association Agreements and eventual membership in the EU. The publication also gives brief information on environmental assistance provided by the EU and other international financial institutions and donors.

The profiles further outline the situation of the countries under the four priority areas of REReP. The state of legal, political and institutional frameworks for environmental protection is given, as well as environmental policies and strategies. Although at differing levels, all of the countries are steadily advancing in harmonising their environmental policies, institutions and standards with those of the EU. New environmental laws are adopted and steps are taken to strengthen institutions and environmental enforcement bodies. The nations' environmental civil societies are also growing, developing expertise and creating focused networks. The state of regional and cross-border cooperation has been enhanced since the beginning of REReP, and the number of cross-border memoranda of understanding, agreements and initiatives has rapidly increased.

Yet significant environmental problems which threaten human health and biodiversity exist. While real signs of environmental improvement are showing, there are still enormous obstacles to overcome. The efforts of these countries and their dedication in developing environmental policy and legislation, strengthening state institutions and civil society, and reducing environmental pollution should continue.

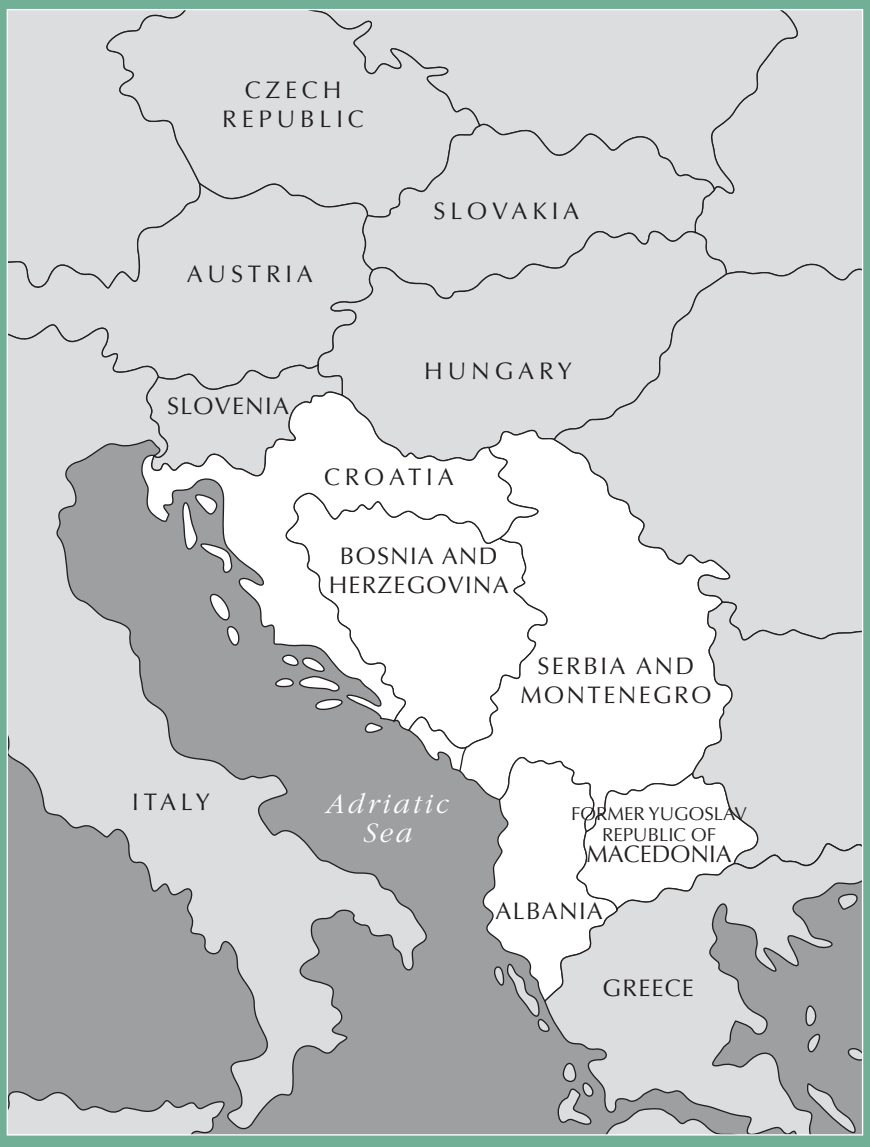
1 See: www.rec.org/REC/Programs/REREP/rerep_bbe.pdf

2 See: www.rec.org/REC/Programs/REREP/documents/REReP Highlights2005.pdf

Abbreviations

ASCI	Areas of Special Conservation Network
BAT	Best Available Techniques
BiH	Bosnia and Herzegovina
CADSES	Central, Adriatic, Danubian and South-Eastern European Space
CARDS	Community Assistance for Reconstruction, Development and Stabilisation
CEE	Central and Eastern Europe
CEI	Central European Initiative
DG	Directorate General
DISAE	Development of Implementation Strategies for Approximation in Environment
DPA	Dayton Peace Agreement
EAR	European Agency for Reconstruction
EBRD	European Bank for Reconstruction and Development
EC	European Commission
ECNC	European Centre for Nature Conservation
EEA	European Environment Agency
EECCA	Eastern Europe, the Caucasus and Central Asia
EIA	Environmental impact assessment
EIONET	European Environment Information and Observation Network
ELPA	Environmental Legislation and Planning Project for Albania
EU	European Union
FBiH	Federation of Bosnia and Herzegovina
GEF	Global Environment Facility
GMOs	Genetically modified organisms
GTZ	German Agency for Technical Cooperation
ICTY	International Criminal Tribunal for the Former Yugoslavia
IEB	European Investment Bank
IFIs	International Financing Institutions
IMF	International Monetary Fund
IPPC	Integrated pollution prevention and control
ISG	Infrastructure Steering Group
IUCN	The World Conservation Union
LEAP	Local environmental action plan

LOCP	**Lake Ohrid Conservation Project**
MAFCP	**Ministry of Agriculture, Food and Consumer's Protection**
MEAs	**Multilateral environmental agreements**
MEPP	**Ministry of Environment and Physical Planning (former Yugoslav Republic of Macedonia)**
MEPPPC	**Ministry of Environmental Protection, Physical Planning and Construction of Croatia**
MIP	**Multi-annual Indicative Programme**
MoEFWA	**Ministry of Environment, Forestry and Water Administration of Albania**
NEAP	**National environmental action plan**
NESs	**National environmental strategies**
NFP	**National focal point**
NGOs	**Non-governmental organisations**
ODS	**Ozone depleting substances**
OECD	**Organisation for European Co-operation and Development**
OSCE	**Organization for Security and Co-operation in Europe**
PEIP	**Priority Environmental Investment Programme for South Eastern Europe**
POPs	**Persistent organic pollutants**
PRTR	**Pollution release and transfer register**
PRSP	**Poverty Reduction Strategy Paper**
REC	**Regional Environmental Center for Central and Eastern Europe**
REAs	**Regional environmental agencies**
REReP	**Regional Environmental Reconstruction Programme for South Eastern Europe**
PISG	**Provisional Institutions of Self-Government**
SAP	**Stabilisation Association Process**
SAA	**Stabilisation Association Agreement**
SBA	**Stand-by-agreement**
SEA	**Strategic environmental assessment**
SECI	**South-Eastern Cooperative Initiative**
SEE	**South Eastern Europe**
SEEENN	**South Eastern European Environmental NGO Network**
SEECP	**South-East European Cooperation Process**
STM	**Stabilization and Association Process Tracking Mechanism**
TAIEX	**Technical Assistance Information Exchange Office**
UNECE	**United Nations Economic Commission for Europe**
UNDP	**United Nations Development Programme**
UNEP	**United Nations Environment Programme**
UNESCO	**United Nations Educational, Scientific and Cultural Organisation**
UNMIK	**United Nations Mission in Kosovo**
USEPA	**United States Environmental Protection Agency**
WB	**World Bank**
WHO	**World Health Organization**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MONTENEGRO
ITALY
Adriatic
Sea
FORMER YUGOSLAV
REPUBLIC OF
MACEDONIA
ALBANIA
GREECE

Environmental Profile: **Albania**

LOCATION

South Eastern Europe, bordering the Adriatic Sea and Ionian Sea, between Greece and Serbia and Montenegro

AREA

Total:	28,748 sq km
Land:	27,398 sq km
Water:	1,350 sq km

LAND BOUNDARIES

Total: 720 km

Borders: Greece 282 km, former Yugoslav Republic of Macedonia 151 km, Serbia and Montenegro 287 km

CLIMATE

Mild, temperate; cool, cloudy, wet winters; hot, clear, dry summers; interior is cooler and wetter

ELEVATION EXTREMES

Lowest point:	Adriatic Sea — 0 m
Highest point:	Maja e Korabit (Golem Korab) — 2,764

NATURAL RESOURCES

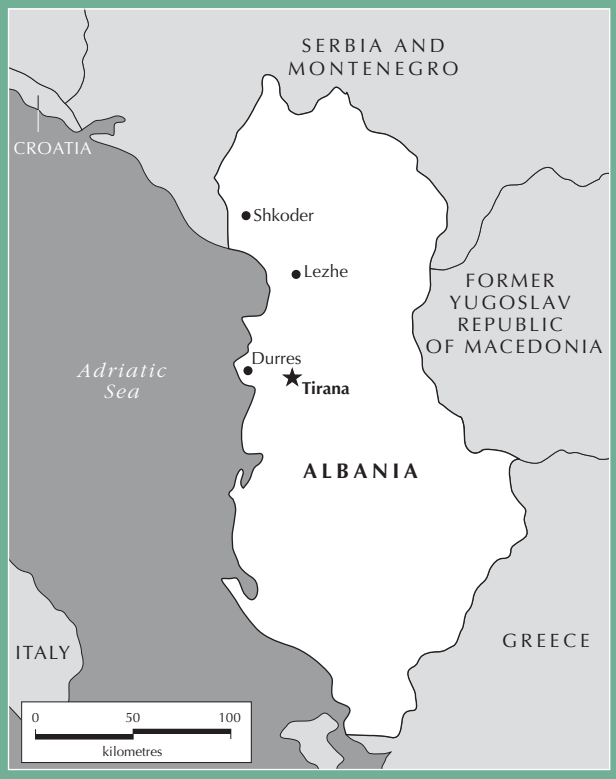
Bauxite, chromites, coal, copper, hydropower, iron ore, natural gas, nickel, petroleum, salt, timber

NATURAL HAZARDS

Destructive earthquakes; tsunamis occur along southwestern coast; floods; drought

CURRENT ENVIRONMENTAL ISSUES

Deforestation; soil erosion; water pollution from industrial and domestic effluents



MAIN ECONOMIC TRENDS

	2002	2003	2004	2005 (projected)
Growth in GDP (real change, in percent)	3.5	6.0	5.9	6.0
Inflation (change in consumer price index, in percent)	5.2	2.4	2.9	2.1
Foreign direct investment (in million USD)	135	178	343	288
Unemployment rate	15.8	15.0	14.5	n/a

Environmental Profile: **Albania**

Introduction

The Republic of Albania lies on the western seaboard of the Balkan Peninsula. One of the smallest countries in Europe, it has a population of 3.2 million (based on figures from 2004) and a territory of 28,748 square kilometres. Of this total land area, 36 percent is forest, 15 percent is pasture, 42 percent is agricultural land and four percent is covered by lakes. Mountain ranges stretch along the northern, eastern and southern frontiers while in the west, lowlands extend inland from the coast for more than thirty miles. It is this lowland region that harbours the majority of the country's agricultural resources, as well as most of the large, aging industrial structures established during the communist regime and now quickly falling into disrepair or ruin. This low-lying area is also the most densely populated in the country, and includes the Albanian capital, Tirana, which has a population of about 245,000.

Albania has a wealth of natural resources, with six national parks and 25 World Conservation Union (IUCN)-categorised protected areas of environmental significance covering more than 76,000 hectares. The country boasts a rich spectrum of biodiversity, including approximately 3,200 flora species and 756 fauna species. It also possesses a high diversity of ecosystems and habitats. Within the territory of Albania are maritime ecosystems, coastal zones, lakes, rivers, evergreen bushes, broadleaf bushes, broadleaf forests, pine forests, alpine and sub-alpine pastures and meadows, and high mountain ecosystems.

The central institution responsible for environmental issues in Albania is the Ministry of Environment, Forestry and Water Administration (MOEFWA). The Inspectorate of Environment represents the structure within the MOEFWA and is responsible for decentralised environmental protection. Several other ministries and state bodies also have responsibilities related to environmental protection: the Ministry of Agriculture, Food and Consumer Protection (MAFCP); the Ministry of Public Works, Transport and Telecommunications; and regional, municipal and communal governments.

Regional dialogue with neighbouring countries and territories has been actively pursued, notably in the framework of the Regional Environment Reconstruction Programme for South Eastern Europe (REReP). Nevertheless, the present environmental situation remains grave and much more must be done if Albania wishes to prevent its environmental problems from becoming a serious handicap to socioeconomic development.

Current Environmental Conditions

Soil, Forests, Agricultural Land

Agriculture is one of the most important sectors of the economy, representing 24.7 percent of gross domestic product in 2003. Albanian agriculture grew by 2.8 percent in 2003, surpassing the previous year's growth of 2.3 percent. The main drivers of growth were livestock and arboriculture (representing 4.8 percent and 15.5 percent, respectively). However, farming and livestock production still depend on investment and especially on credit, both of which would help to develop technology, raise competitiveness and improve product quality. A number of institutional reforms took place in irrigation and drainage in 2003, as well as in the research and extension services of the regional departments of agriculture.

Land degradation in different forms is considered a critical point, with erosion the most widespread phenomenon. Approximately 25 percent of the country's total surface area suffers erosion at an annual rate of 20-30 tonnes per hectare. Land loss is particularly severe in the area known as zone A (Shkodra, Tropoja, Saranda and Gjirokastra), which loses 52 tonnes per hectare each year.[1] Human activities have accelerated this rate to 150 tonnes per hectare in some areas. Around 150,000 hectares is misused and degraded, especially abandoned land.[2] Contamination of soil by pesticides and chemicals remains relatively low. In 2002, 119,726 tonnes of pesticides and chemicals were used, of which 33,896 tonnes were urea, 46,293 tonnes were ammonium nitrate, and 39,537 tonnes were diamon superphosphate.

Although some forests that humans depopulate are recovering, forestry remains an important issue. A high level of illegal cutting, mainly in the northern areas of

the country, still occurs. Intensive harvesting of high altitude forests (200-250 percent the annual cutting allowance for about 40 years) has distorted the age structure of the forests, with young forests disproportionately present.[3]

Water

The hydrographic basin of Albania has a total area of 43,305 square kilometres, from which 28,748 km², or 67 percent, can be found within Albania's borders. Overall renewable resources amount to 13,300 cubic metres per capita, of which about 65 percent is generated within Albania, with the remainder coming from upstream countries. Resources are unevenly distributed throughout the country.

The major water resource is surface water, found in rivers, lakes and lagoons. Significant rivers are the Drini, Mati, Ishmi, Erzeni, Shkumbini, Semani, Vjosa and Bistrica, and the country is crossed by several rivers, which form part of six main basins. Albania also has a number of natural lakes and manmade lakes for energy and irrigation. Lakes cover about four percent of the country's territory.[4]

Contamination of surface and underground waters is widespread. In the great majority of rivers, there is a notable deficit of dissolved oxygen. In such cases, high values of chemical oxygen demand (COD) and of biological oxygen demand (BOD) are generally observed. The rivers most affected by untreated urban sewage are those of Tirana, Gjanica and Ishmi. Eutrophication is found in some areas.[5]

The oil and gas processing industries account for about 22 percent of overall liquid waste. One example is the Gjanica River, in which the waters of oil extraction and processing are discharged, and among the most polluted in Albania. The Gjanica has a phenol content of 2.62-3.64 milligrams per litre, COD 131-157 milligrams per litre, and BOD 42 milligrams per litre, all of which are far above established standards.

Air

Air pollution in Albania remains uncontrolled, and further deterioration of urban air quality is expected with the rapid increase in vehicle imports.

The percentage of diesel vehicles in the fleet is approximately 85 percent. Accordingly, air quality measurements recording nitrogen oxides concentration in areas of Tirana with dense traffic have increased markedly in comparison with 15 years ago. Air monitoring for smoke content in Tirana's centre and near Fieri's centre shows an increase in air pollution connected directly with emissions of particles from diesel-fuelled vehicles. Tirana contains about 50,000 vehicles, roughly 30 percent of the country's total. Suspended particulate matter (SPM) and PM 10 are dangerously above the World Health Organization guideline values, and a remarkable increase in nitrogen dioxide and ozone has been seen due to the country's rapidly increasing vehicle fleet (Deliu A., Monitoring data 2002-2003).

In some areas of the country, and particularly in the cities of Elbasan and Fushe-Kruje, cement plants cause heavy air pollution, discharging huge amounts of particulate matter into the atmosphere and amounting to 10 percent of their overall production.

Biodiversity

According to recent biodiversity assessments, there are 3,250 higher plant species in Albania — about 30 percent of the total in all of Europe — and 2,350 species of lower plants, including mosses, algae, and fungi. There are 27 plant species found only in Albania and another 160 species endemic to Albania and adjacent countries. Among the endemic plants are a number of relict species such as Forsythia europa. Albania is home to 756 vertebrate animal species including 70 mammals, 323 birds and 36 reptiles. There are 64 species of fish in Albania's lakes and rivers, and 249 species of fish in territorial marine waters.

Albania is home to 91 globally threatened species of animals including 21 mammal species, 18 birds, four reptiles, two amphibians, 28 fish, and 18 invertebrates. Albania's *Red Book for Endangered, Rare, and Endemic Species* lists 573 species of animals (including vertebrates and invertebrates) and 320 species of flowering plants, 45 fungi, and 25 marine plants. Albania also has significant agriculture-related genetic diversity, with 30 species of food plants native to the country, as well as nine local breeds of goats and five breeds of sheep.

National Environmental Priorities

Progress has been made by the Albanian Government in improving the environmental qualities, especially in sensitive and hot spot areas, and in conserving natural values and resources; however, some main priorities identified by the National Environmental Action Plan (NEAP) 2002 remain of high importance. The national environmental priorities cover all environmental components: air quality especially in big cities; water quality especially drinking water and sewage treatment; soil protection from erosion and loss due to change of use; and biodiversity due to illegal hunting and habitat loss.

In addition, frequently presented priorities in official documents and assessments include:

- design of environmental sectoral policies and implementation of corresponding action plans;
- strengthening the national system of environmental management and all its components;
- preservation, development and sustainable use of natural resources;
- increasing the use renewable resources compared to non-renewable resources;
- completion and approximation of the legal regulatory framework with EU guidelines and its enforcement;
- strengthening the role of public and civil society;
- sustainable rehabilitation of hot spots and sensitive environmental sites;
- promotion and education of preventive practices rather than corrective ones;
- the need for environmental impact assessment of different activities;
- environmental strategic evaluation for plans, programmes and policies;
- active involvement of local government in environmental problem areas and increase in legal responsibilities;
- strengthening and cooperation of inspectorates promoting environmental protection, preparation of environmental information and the increase of access by all interested parties;
- promotion of clean production technologies;
- environmental education in schools; and
- public awareness for environmental protection.

National Funds and Economic Instruments for the Environment

The percentage of the Albanian federal budget allocated to the Ministry of Environment was 0.19 percent in 2004-2005, and 0.22 percent in 2003. In absolute figures, this represents approximately EUR 2.46 million for 2005, or 0.036 percent of the country's GDP. Local authorities have budget allocations that mainly focus on infrastructure improvement, maintenance of drinking water system and sewerage pipelines. Funds allocated to environmental investment are usually enlisted under services without much direct reference to environment.

In recent years, Albania has progressed in introducing some economic instruments for the environment. Numerous laws in place either advocate their use or specify precise details and charges. These can be divided into those determined and administered at the national level and the regional level. At the national level, the following laws exist that address economic taxes/charges as well as non-compliance fines.

In the Law on Environmental Protection (Law No. 8934, September 5, 2002), the general status of economic instruments in Albania is summarised. In addition, articles 82 to 87 set out a series of potential environmental violations, together with fine and administrative arrangements. A total of 15 types of violation are defined, with fines ranging from ALL 30,000 to 1,000,000, which are set by the environmental inspectorate and enforced in cooperation with the state police. Fines are paid to the state budget, and delays in payment incur an additional 10 percent penalty daily.

Under the Law on Central Taxes (No. 8977, December 12, 2002) are three specific environmental taxes related to pollution: an import tax on cars to discourage the more-polluting older and diesel cars; a carbon tax on fuel whereby drivers pay ALL 0.5 per litre for benzene and ALL 1 per litre for gasoline; and the plastic container tax, covering all one-time-use plastic containers.

Permits with lease rates are required in the exploitation of natural resources, such as excavation for stone, humus, sand, gravel, etc., in forests and riverbeds; wood coal, tinder and lime production; beehive cultivation; and quarrying.

In the Protection of Wild Fauna and Hunting Law (No. 7875, November 23, 1994), a range of infringements is outlined together with associated fines, up to a maximum of ALL 80,000. Some examples of infraction include hunting without permits; hunting outside designated hunting zones; killing or collecting over the limit; killing or collecting out of season; and damaging bird nests, eggs or fledglings. The Hunting Association has the authority to collect hunting fees.

In the Water Sources Law (No. 8093, March 21, 1996), permits and authorisation for the use of inert material, e.g. sand or gravel, through the mining of rivers, streams or lakes are issued by the water authorities. The Council of Ministers is responsible for setting tariffs on water use for various purposes, taking into consideration a range of factors.

Additionally, financial incentives in the form of loans, tax exemptions and fee exemptions for water use are available from the central government for those engaged in studies or technological development; processes, installations and new equipment that reduce water use, water consumption and/or pollution can also be financed. Several existing laws detail administrative and tariff arrangements for providing public services relating to solid waste and wastewater disposal and water supply, as well as fines for non-compliance.

Even today, command and control instruments dominate Albanian environmental policy. Revenue from non-compliance fines and administrative licensing process are much too small to fund important environmental projects. For long-term environmental management in the country, there is a need for the development of clear environmental financing mechanisms and the strengthening of domestic environmental institutions for their implementation and management.

A national environment fund should be established to administer money collected through environmental taxes and fines. Guidelines and systems would need to be established to define precisely how it is managed and how the money should be used and prioritised. Prioritisation should be in accordance with recommendations in future National Environmental Action Plans/National Environmental Strategies (NEAPs/NESs).

EU-Albania relations: the Stabilisation and Association Process

Along with most Western Balkan nations, Albania has been participating in the Stabilisation and Association Process (SAP) since its very beginning. The country has benefited from the overall cooperation framework of the SAP, including autonomous trade preferences, national and regional financial assistance under the Community Assistance for Reconstruction, Development and Stabilisation (CARDS) and the prospect for an enhanced, far-reaching contractual relationship with the European Union through a Stabilisation and Association Agreement (SAA). Negotiations on a Stabilisation and Association Agreement draft began in early 2003. Agreement in principle has now been reached on most elements of the text of the draft agreement. Environment is one area in which cooperation will be increased when the EU-Albania SAA is signed.

The first European Partnership with Albania was adopted by the Council on June 14, 2004.[6] Albania adopted its action plan for the implementation of European partnership priorities in September 2004 and provided the commission with progress updates in December 2004 and March 2005. The second European Partnership identifies new priorities for action, with new priorities adapted to the country's specific needs and stage of preparation, and will be updated as necessary. The European Partnership also provides guidance for financial assistance to the country. Albania is expected to develop a plan with a timetable and specific measures to address the priorities.

EU Assistance

Since 2001, the CARDS programme has been the main financial instrument of EC cooperation with Albania. At present, the main priorities for CARDS assistance are: justice and home affairs, administrative capacity building, economic and social development, environment and natural resources, and democratic stabilisation. In the period 2001-2004, EUR 192.4 million was earmarked for Albania, of which EUR 14 million was directly devoted to environment, although other projects (notably those of infrastructure) often contribute to improving the environmental situation. For 2005-2006, the CARDS allocation to Albania for environment is minimum EUR 6.8 million.

ENVIRONMENTAL PRIORITIES IN THE 2005 EUROPEAN PARTNERSHIP

Short-term priorities

- To strengthen administrative capacity and coordination at national and local levels;
- To implement legislation on environmental impact assessment;
- To adopt a strategy to further align environmental legislation with the EU acquis, and properly implement existing legislation, especially as regards enforcement;
- To take action on environmental hot spots at Sharra solid waste landfill and the Patos-Marinez oil extraction area;
- To further develop and implement the National Water and Sanitation Strategy and the Rural Strategy for Water Supply and Sewerage;
- To develop and implement a strategy for progressive alignment to the acquis in the areas of water supply and sanitation;
- To implement international conventions to which Albania is party in the field of nature protection.

Medium-term priorities

- To continue efforts to address toxic hotspots;
- To reduce pollution produced by the Balsh refinery, including discharge into the Gjanica River, and to take general measures against water pollution;
- To strengthen environmental monitoring and ensure sufficiently dissuasive sanctions against polluters;
- To continue implementation of regional and international environmental commitments.

EU assistance covered several environmental topics: environmental hot spots; removal, treatment and disposal of arsenic solution from the nitrogen fertiliser plant in Fier (Phare 2000); pollution remediation at the Ballshi refinery (CARDS 2002); design of a landfill for hazardous waste (CARDS 2002); construction of a landfill (CARDS 2004); institutional and regulatory strengthening, environmental legislation and planning (CARDS 2002); environmental quality monitoring (CARDS 2004); and territorial planning development of the Tirana-Durres corridor (CARDS 2004).

The current project Environmental Legislation and Planning Project for Albania-ELPA,[7] has the overall objective of supporting the Government of Albania objectives in EU accession by improving the capacity of the environmental ministry and other key ministries at national and regional levels to implement environmentally sustainable development in accordance with EU directives. Other projects (Pollution Abatement and Control at the Ballshi Refinery, and Designing a Secure Landfill Site for Hazardous Waste) are under implementation. CARDS 2004 contains a list of four project proposals, for a total value of approximately EUR 10 million, on issues such as waste treatment, hazardous waste management, environmental monitoring system, and regional sustainable and integrated development).

Albania also receives funds from the CARDS regional programme, which finances collaboration of SEE countries with the European Environment Agency and Regional Environmental Reconstruction Programme activities, for example.

Relations with International Financial Institutions

In Albania, World Bank (WB) assistance for environment focuses on natural resource management through improved coastal zone management for sustainable development; protection of environmental and cultural assets; improved community-based management of hilly, mountainous, and erosion-prone landscapes to reduce soil degradation, flooding and runoff into the Adriatic Sea; and support for improved water and wastewater management. In the future, the WB plans to broaden support for land management to include land tenure and land markets. In June 2005, the WB approved a credit of USD 17.5 million for the first phase of the Integrated Coastal Zone Management and Cleanup Project for Albania, a project with an estimated total cost of USD 38.6 million expected to be financed by several funding sources.

The Global Environmental Facility (GEF) is a major funding source for environmental projects implemented or under implementation such as Climate Change Enabling Activities (1998-2003); Capacity Building for Sustainable Land Management (EUR 37,000 in 2005); Conservation of Wetland and Coastal Ecosystems in the Mediterranean Region (USD 1.751 million, 1999-2006); enabling Albania to prepare its first national communication in response to its commitments to the UNFCCC (USD 263,744 for the first phase up to 2002, USD 405,000 for the second phase); the GEF Small Grants Programme (USD 200,000 in the 2005 budget); Integrated Ecosystem Management in the Trans-boundary Prespa Park Region (USD 376,000); and Persistent Organic Pollutants (USD 378,400 in 2005-2006).

The strategy of the European Bank for Reconstruction and Development for Albania is to focus on private-sector development, to support SME participation in strategic privatisation (particularly in the banking and telecommunications sectors), infrastructure financing and development (particularly in the energy and transport sectors). In 2004, the EBRD has approved the financing of a project to revive a cement factory worth about EUR 25 million. In total, the EBRD has supported 17 projects worth a total of EUR 206 million. Based on the EBRD country strategy of 2004, the development of a viable project pipeline in the municipal and infrastructure sectors, focusing mainly on water supply and possibly urban transport and solid waste, is considered a priority.

REReP Priority Areas

State of Legal, Policy and Institutional Framework

The Ministry of Environment, Forestry and Water Administration is the main lawmaker and authority in the field of environmental protection matters. As such, the ministry has drafted or initiated most environmental laws compiled in the compendium; it is also in charge of all normative acts which can be considered horizontal legislation. The Law on Environmental Protection dated September 5, 2002, is the new cornerstone of environmental legislation in Albania. This law led to the abrogation of the Law on Environmental Protection of 1993 and is considered a framework law requiring numerous other laws and sub-laws in order to be properly implemented.

Albania has adopted some 10 laws and several supplementary decisions in the field of environmental protection between 2001 and 2003. Important environmental acts include those on land protection (adopted in 2001), environmental protection (2002), air pollution (2002), protected areas (2002), marine environment pollution and damage (2002), environmental impact assessment (2003), solid waste (2003), treatment of polluted waters (2003), and transboundary lakes (2003).

Some secondary legislation has been adopted in areas such as environmental impact assessment, protected areas, environmental management of polluted waters, and conservation of transboundary lakes. Ecotaxes are now collected on a number of products, e.g. carbon and plastic packaging, in accordance with legislation adopted at the end of 2002. However, overall implementation of legislation remains weak. It is crucial that EIA legislation be fully and properly implemented, independent of potential conflicts of interest.

The main obstacles and constraints as concerns horizontal laws are that, apart from the EIA, no normative acts have been adopted which provide an applicable legal system. The provisions of strategic environmental assessment fall short of the complexity of this issue, public participation and access to information are only partly regulated, and there are insufficient provisions on environmental liability. One main shortcoming is the unclear permit-issuance procedure. The established system cannot be considered an integrative permit system in the sense of the IPPC directive because there is no integrative approach.

Environmental Policies and Strategies

The National Environmental Action Plan (NEAP), prepared in 1993 and updated in 2002, is the basic document that presents the governmental policy in the area of environmental protection. It was prepared by an inter-ministerial working group under the lead of the then National Environmental Agency, which subsequently became the Ministry of Environment and, in turn, the Ministry of Environment, Forestry and Water Administration in September 2005. Among other aims, the NEAP seeks to design sectoral environmental policies and implementation of action plans; completion and approximation of the legal regulatory framework within the European framework; its enforcement; active involvement of local government in environmental problem areas; and increasing of the legal responsibilities of local government.

The National Environmental Strategy to be prepared under CARDS 2002: Environmental Legislation and Planning in Albania (ELPA) aims to improve sectoral integration, provide up-to-date analysis of the Albanian environment and proposals for future policy, and guide integration of Albania's environmental policies to meet EU obligations.

Among environment-related strategies is the National Biodiversity Strategy and Action Plan (2000), which defines national priorities and necessary institutional changes for the implementation of the Convention on Biological Diversity. The Strategy for the Development of the Forestry and Pastures Sector in Albania (2003) aims at ensuring the management and sustainable development of forestry and pasture resources in accordance with government policies. The National Strategy of Energy and Action Plan (2003) analyses and includes changes that must occur to increase the security of the energy supply and optimisation of energy resources in order to meet demand and achieve future sustainable economic development.

The Water Supply and Sanitation Strategy Sector in Albania (2004) searches for a new mode of water and sanitation sector organisation within the burgeoning fragile market economy and of legal and institutional adjustments. It analyses the decentralisation process and management practices on the ground. Most attention is given to the achievements, accomplishments and obstacles on the road to reform, in addition to the causes and consequences of the problems and ways of enhancing the sector efficiency and sustainability. The Arhus Convention Implementation Strategy (2005) presents the most recent initiative of the ministry of environment on further development of environmental information systems publicly accessible, as well as developing mechanisms of public involvement in the environmental decision-making processes.

The central institution responsible for environmental issues in Albania is the Ministry of Environment, Forestry and Water Administration (MoEFWA), successor to the Ministry of Environment of 2001-2005. A relatively new institution, MoEFWA is responsible for the development of environmental legislation and regulation framework, as well as issuing environmental permits and licensing.

The Inspectorate of Environment represents the structure within the ministry and is responsible for decentralised environmental protection. The inspectorate, in addition to centrally located staff in Tirana, is also responsible for staffing each of the 12 prefectures' regional environmental agencies. Together, the regional environmental agencies and environmental offices are responsible for ensuring compliance with environmental regulations at prefecture and district levels.

The Directorate General of Forests and Pastures (DGFP) had been under the auspices of the Ministry of Agriculture and Food (MAF) until 2005. The DGFP is responsible for management and administration of both protected areas and hunting. In addition, the DGFP is responsible for forest and pasture management and administration; this includes private forests, state forests and communal forests, high alpine pasture and communal pasture, and the full range of biodiversity contained therein.

The MAF is the institution charged with administration of the large majority of Albania's productive resources, e.g. agricultural land, forests, pastures and fisheries. The MAF has also been responsible for the management of protected areas, and the control and

regulation of hunting. The Directorate General of Fisheries (DGF) within MAF is responsible for the administration of fishery resources, including marine fisheries, freshwater fisheries and aquaculture.

Structures of the Ministry of Public Works and Tourism at national and local levels are responsible for issuing permits for construction activities. Approved in 1998, the Urban Development law requires the conduct of EIAs prior to the issuance of any construction permits. To enforce various laws and regulations governing construction, the Government of Albania approved the establishment of the construction police (Law No. 7752, March 28, 1993) under the Ministry of Public Works and Tourism. Construction police have the authority to cease illegal construction in urban areas and in areas of environmental importance. Similarly, construction police have the mandate to control exploitation of inert materials, e.g. sand and gravel, from riverbeds.

Within the context of the 2001 Local Government Law, regional, municipal and communal governments have legal authority to take responsibility for environmental management within the municipality. Authorities at these levels of government include those for environmental planning, nature conservation, and enforcement of provisions of the environmental protection law. Given the status of the decentralisation process at present, there is very limited capacity at the level of local government to assume responsibility for any of these competencies. Limited financing further constrains the ability of local government to address environmental issues.

The Ministry of Environment, Forestry and Water Administration (MoEFWA), as well as the five national institutions responsible for environmental matters, continue to have problems with coordination and monitoring. Methodological standards for data collection, management, and scientific analysis have not been standardised, and no central electronic database has been created.

In addition to the central governmental institutions, numerous governmental bodies have some responsibility for environmental issues. The National Academy of Science is comprised of numerous scientific research institutes and centres, two of which have a role in biodiversity conservation in Albania. In addition to serving as the training ground for new generations of scientists, Tirana University, the Agricultural University of Tirana, and the University of Shkodra are also responsible for important conservation research and environmental monitoring programmes.

State of Environmental Civil Society

Environmental civil society in Albania is growing in quantity and quality: More than 100 groups are registered non-governmental organisations (NGOs) around the country, though the exact number is difficult to establish due to sector dynamics and dispersion across the country. In addition to purely environmentally focused NGOs, many others of a wider focus contribute to solving environmental issues at the community level. Nowadays, there is a clear tendency to develop expertise and consultancy-type services at the NGO level, while the number of NGOs representing the needs of specific communities is increasing. Financial support, institutional strengthening and community outreach remain some of the challenges of the sector. During the past two years, the environmental NGO community managed to create a focused network, Ekolevizja, a group of 14 environmental NGOs. In addition, Albanian NGOs developed partnerships with other sectors for some major public advocacy and public pressure campaigns, including those on genetically modified organisms (GMOs), importing waste, and energy investments. As result of these activities, the draft law on Protection of Biodiversity, containing a chapter on GMOs, has been discussed several times in parliamentary commissions and was sent back to the previous government. In addition, the former government was forced to withdraw plans to construct a waste incinerator mainly for imported solid waste in the Kashar commune in the vicinity of Tirana by an Italian-Albanian consortium.

State of Regional and Cross-border Cooperation

Albania is a member of many initiatives currently taking place in the Balkans, including the Stability Pact for South Eastern Europe and the South-Eastern European Cooperation Process (SEECP). Albania also participates in the South East European Cooperation Initiative, the Adriatic-Ionian Initiative and the Black Sea Economic Forum. Albania actively participates in REReP, co-chairing the task force in 2004 and 2005.

Albania has signed the following agreements for cross-border environmental cooperation:

Albania has signed a Memorandum of Understanding with the former Yugoslav Republic of Macedonia on management of Lake Ohrid. Albania and the former Yugoslav Republic of Macedonia have cooperated on the management of water resources of Lake Ohrid and Lake Prespa through the establishment of common management boards.

Albania and Montenegro have signed a Memorandum of Understanding on the Management of Use of Common Natural Resources, which focuses primarily on Lake Shkoder. Several bilateral meetings are held in both countries with the intention of developing cooperative projects on this cross-border area.

Albania signed a Memorandum of Understanding with Croatia on general environmental cooperation. Meetings of experts have been organised between the respective ministries to identify potential fields of cooperation.Relations with acceding and candidate countries are constructive and have mainly focused on EU integration. Several agreements have been signed with Bulgaria and Romania.

No specific agreement of environmental cooperation has been signed with either Bosnia and Herzegovina or Turkey.

Implementation of the 2002-2004 Cooperation Protocol between Albania and Italy (representing EUR 205 million over the three-year period, in addition to EUR 160 million for programmes already underway) has continued, with emphasis on roads and transport, water and sanitation, energy, agro-industry, public heath, private sector development and social and institutional support. Cooperation between local and regional Italian and Albanian entities has also increased.

Relations with Greece have remained positive. In the field of environment, Albania has signed a memorandum of understanding with the country. Another memorandum of understanding, prepared in 2003, is awaiting ratification by the Greek parliament.

State of Environmental Health Threats and Loss of Biodiversity

Albanian environmental problems remain acute. Little has been done to address toxic hotspots identified in Durres and Flora, as well as to tackle the problems of radioactive waste in Tirana and Fier. According to the Albanian Public Health and Environment Institute, Albania's urban areas have high levels of air pollution due to uncontrolled development. In these areas, dust levels exceed World Health Organization standards. Pollution from the Ballsh Oil Refinery and nearby oil wells is considered to be unacceptably high. There are hydrocarbon emissions in the air and soil, and water has been greatly affected. The latter is especially evidenced in the persistent discharge of oil into the Gjanica River. Further pollution is caused by industries using copper and chromium, and Albania is also experiencing soil erosion due to overgrazing and illegal logging, particularly in hilly and mountain areas.

Despite improvements, Albania's biodiversity continues to be seriously threatened. Threats to ecosystems and habitats originate from the country's weak governance and economy. The government lacks the financial and human resources to use this structure to counteract threats. Most threats are driven by taking advantage of this weak governance to ignore land and natural resource use laws. Rural Albanians may have no other option than to unsustainably exploit natural resources. The lack of a working system of spatial planning to guide development and a functioning environmental impact assessment (EIA) process to avoid or mitigate impacts from commercial development are particularly damaging to the natural environment.

ENDNOTES

1. *National Strategy for Socio-Economic Development* (NSSED), World Bank.
2. (UN, Albania: *Common Country Assessment* 2004).
3. *Strategy on Forestry and Pastures,* 2003.
4. *Albania Water Supply and Wastewater Sector Strategy,* 2003.
5. MoE, Monitoring Report 2003.
6. Council Decision 2004/519/EC3.
7. EU, CARDS 2002, EUR 2 million.

REFERENCES

Central Intelligence Agency. "Albania" in *The World Factbook.*

EBRD. *Albania Country Strategy, 2004.*

EBRD. *Transition report, 2005.*

EC. *Albania 2005 Progress report.* COM (2005) 561 final. Brussels, November 9, 2005.

EC. *The European Partnership with Albania.* COM (2005) 553. Brussels, November 9, 2005.

EC Directorate-General for Economic and Financial Affairs. *The Western Balkans in Transition.*

Government of Albania Progress Report NSSED, 2004.

UNDP Albania. *Human Development Report,* 2004.

UNDP Albania. *Albania National MDG Report,* 2004.

World Bank. *The Little Green Data Book,* 2004.

Environmental Profile:
Bosnia and Herzegovina

LOCATION

South Eastern Europe, bordering the Adriatic Sea, between Croatia and Serbia and Montenegro

AREA

Total:	51,129 sq km
Land:	51,129 sq km
Water:	0 sq km

LAND BOUNDARIES

Total:	1,459 km
Borders: Croatia (932 km), Serbia and Montenegro (527 km)	

CLIMATE

Hot summers, cold winters; areas of high elevation have shorter, cooler summers and longer, more severe winters; coastal areas have mild, rainy winters

ELEVATION EXTREMES

Lowest point:	Adriatic Sea — 0 m
Highest point:	Maglic — 2,386 m

NATURAL RESOURCES

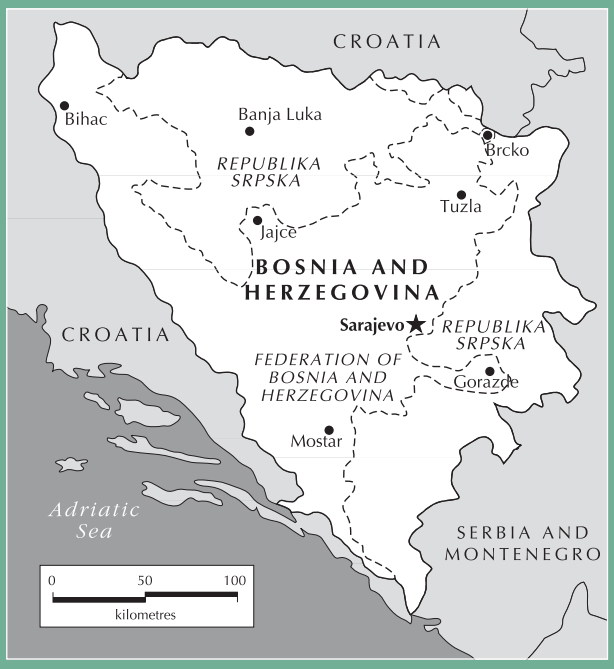
Bauxite, chromite, clay, coal, cobalt, copper, forest, gypsum, hydropower, iron ore, lead, manganese, nickel, salt, sand, zinc

NATURAL HAZARDS

Destructive earthquakes

CURRENT ENVIRONMENTAL ISSUES

Air pollution from metallurgical plants; limited sites for urban waste disposal; water shortages and infrastructure damage to the 1992-95 conflicts; deforestation; water pollution; illegal waste disposal



MAIN ECONOMIC TRENDS

	2002	2003	2004	2005 (projected)
Growth in GDP (real change, in percent)	5.3	4.0	5.7	5.0
Foreign direct investment (in million USD)	266	382	490	540
Unemployment rate	40.9	42.0	n.a	n.a

Environmental Profile: **Bosnia and Herzegovina**

Introduction

Bosnia and Herzegovina is a mountainous country located in the southwest of the Balkan Peninsula, with a population of 4.1 million (as of 2004) and a highly forested territory of 51,000 square kilometres. The central and southern landscape of the country is dominated by the Dinaric Alps, which mark the convergence of three distinct ecological zones: the Mediterranean, Balkan and Central European. Plains and plateaux in the north flank the Sava River.

The last decade in Bosnia and Herzegovina was dominated by political and economic changes brought about by the dissolution of former Yugoslavia. The years between 1989 and 1991 were characterised throughout former Yugoslavia as a time of transition from centralised to market economy, including liberalisation of prices, privatisation, and often closure of inefficient public enterprises.

In 1991, the international recognition of Bosnia and Herzegovina as an independent and sovereign state spawned a four-year war between the three primary ethnic/religious groups in the country: Serbian/Orthodox, Bosnian/Muslim and Croatian/Catholic. The war included an extended siege on the capital city Sarajevo, and resulted in vast destruction to public structures, private residences and the utilities infrastructure. The war also caused the disruption of all governmental and economic systems, tragic human loss and the displacement of large portions of the population. The signing of the Dayton Peace Agreement (DPA) in December 1995 ended the violent conflict in Bosnia and Herzegovina, and an international military peacekeeping force known as SFOR was deployed to guarantee a continued measure of stability in the country — a country that today remains reassuringly peaceful.

The country is divided into two distinct "entities," the Federation of Bosnia and Herzegovina (FBiH) and Republika Srpska (RS). These entities are both subdivided into different configurations of local authorities with varying levels of decision-making power. The Federation of Bosnia and Herzegovina is subdivided into 10 cantons, while Republika Srpska is divided into larger, less powerful municipalities. As a result of the divergent governmental structures in the two entities, policy differences between the two parts of the country are still a major issue.

The Ministry of Foreign Trade and Economic Relations coordinates environmental protection at the state level. However, as BiH is administratively divided into two entities and one district — the FBiH, RS, and the Brcko District (BD) — environmental responsibilities reside in the Ministry of Physical Planning and Environment in FBiH; the Ministry of Physical Planning, Civil Engineering and Ecology in RS; and in the Brcko District Government. The ministries of agriculture, water management and forestry are responsible for water management issues in both entities.

Moreover, FBiH is divided into 10 cantons, each with separate ministries responsible for physical planning and environment. The fragmentation of BiH has resulted in a government apparatus containing approximately 150 ministries and multiple levels of governance at state, entity, cantonal and municipal levels. Regarding environmental protection, each entity creates and implements its own policy exclusively. In line with tradition, a department for environment was established in the ministries related to spatial planning.

The distribution of competencies regarding international cooperation is extremely complicated, granting the right to international initiatives even to cantons. This results in considerable coordination requirements, delays and difficulties in entering international agreements. It also makes identification of clear national priorities or strategic objectives for cooperation impossible.

Since the end of the war in 1995, BiH has made progress in its international environmental cooperation at bilateral, regional, European and global levels. BiH was admitted as a member of the United Nations on May 22, 1992, when it also joined the United Nations Economic Commission for Europe (UNECE). BiH then accessed to a number of global and regional conventions, and currently cooperates with a number of UN programmes and agencies.

Bosnia and Herzegovina promotes regional cooperation in the framework of the Stability Pact and the South-East European Cooperation Process (SEECP). It has been actively participating in the Regional Environmental Reconstruction Programme for South Eastern Europe (REReP) with a number of regional projects

implemented, initiating and strengthening cooperation between governments, non-governmental organisations, media and other institutions on specific environmental topics.

Current Environmental Conditions

Due to the war in Bosnia and Herzegovina, the environmental state and environmental management is more complex than in other Central and Eastern European states. Two-thirds of the country's infrastructure and industry was ruined at the end of the war. Approximately two million land mines were deactivated. Thousand of tonmes of waste and garbage in urban areas had not been handled in four years. Millions of cubic meters of forests had been cut or destroyed. Other environmental problems extant before the war have become more extreme in recent years due to years of neglect of environmental infrastructure, e.g. solid waste landfills and wastewater treatment plants.

The causes of environmental degradation in Bosnia and Herzegovina are overuse and irrational consumption of natural resources. Pre- and post-war, the devastation of natural resources continued. In the post-war period, the environmental situation in BiH has not changed much, and has in fact deteriorated significantly especially in areas such as water supply, wastewater treatment, and waste collection. The country accumulated tonnes of humanitarian aid in pharmaceuticals, including a large quantity long since expired, and thus could only be treated as waste material, for which there were no adequate disposal facilities. Since there was a lack of industrial activity — the major pre-war polluter — some environmental improvements were noted, particularly in air quality. In general, however, the environmental situation had deteriorated.

Soil, Forests, Agricultural Land

The agricultural sector once represented one of the most important economic sectors in Bosnia and Herzegovina. Since the war, however, this has been in decline, with agricultural contribution to total GDP decreasing from 9.2 percent in 1999 to 7.2 percent in 2000. This decrease has had an impact on the number employed in these activities, which has been reduced by one-half from the pre-war level. In the year 2000, 20,000 were engaged in agricultural labour, representing only 3.2 percent of those employed.[1]

Limited soil resources and land capability characterise the conditions of the agricultural sector in Bosnia and Herzegovina. Those areas with suitable arable production potential cannot realise this potential without the provision of irrigation facilities. At present, only about two percent of the cultivable soil in BiH is irrigated, and use of fertiliser is well below the European average. This is exacerbated by the presence of numerous minefields and small land holdings.

Around 52 percent, or 2,600,000 hectares, of the total land area in Bosnia and Herzegovina is suitable for agriculture with the remaining considered as forestland. Although the total agricultural land area in FBiH and RS is similar, when the population of each are considered — 2,250,000 for FBiH and 1,450,000 for RS — the division of agricultural land per capita in FBiH is 0.56 hectares, whereas in RS, it is approximately 0.90 hectares. Furthermore, when areas of fertile fields and gardens are considered, the division in FBiH declines further and, at 0.23 hectares per capita, is half that in RS.[2] An important consideration is the size of individual land holdings, which in Bosnia and Herzegovina are very small, with 54 percent of properties occupying an area of less than 2 hectares.

Land use in Bosnia and Herzegovina suffers from inadequate and irrational planning of resources. In most cases, loss of agricultural land is a result of unplanned building of residential and industrial facilities and infrastructure, irrational exploitation of raw minerals and excessive erosion caused by deforestation and irregular treatment of slopes. In FBiH, this loss amounts to more than 3,000 hectares per annum, and in RS to more than 2,000 hectares. As more than 80 percent of the country has land slopes in excess of 13 percent, water-induced erosion is an increasing problem today, particularly when land cover is removed through uncontrolled exploitation of timber.

Since BiH has a rural population density of only 43 persons per square kilometre, lower than any other Balkan country, with sound management its forest "use" values, i.e. from timber and other products, can provide income for the local economy. At the same time, its "non-use" values, i.e. from watershed protection and global ecosystem values, can also be protected.

New forest laws are targeted at developing a modern forest management system, with separation of economic and control functions, capable of monitoring and ensuring sustainable and effective forest ecosystem management.

Water

Bosnia and Herzegovina is endowed with abundant water resources, one of the most important factors in overall economic development. Traditionally, very little is invested in the protection of and from water.

From a hydrogeography standpoint, the Black Sea catchment area accounts for 75.7 percent of BiH territory, and the Adriatic Sea 24.3 percent. All river streams

in BiH form seven river basins: Una, Vrbas, Bosna, Drina, Sava, Neretva with Trebisnjica and Cetina. Highly unfavourable is a special characteristic of the natural hydrological regime: the uneven distribution of water in space and time. Natural lakes in BiH can be classified as permanent and periodical lakes. Around 30 smaller or larger artificial water reservoirs are found in BiH, of which 13 are found in the Trebisnjica river basin on the Neretva, and three on the Drina River.

Groundwater in Bosnia and Herzegovina is found in three zones, each with unique characteristics. In the northern zone, groundwater reserves are located mainly within alluvium interconnected sediments of unbalanced granulometric composition on Sava River banks and its tributaries at depths of 50 metres. In the central zone, groundwater accumulates in voids and cracks of limestone massifs and appears as karst springs such as those in the Una, Sana, Bosna, Drina and Neretva river basins. The southern zone is in the Adriatic Sea catchment area and belongs to karst field area. Important springs are found in the Cetina, Neretva and Trebisnjica river basins.

Drinking water quality is questionable and in some cases unsatisfactory. Pollution is still a threat to human health due to old and damaged pipelines, uncontrolled chlorination, and low water pressure. Water quality control is inadequate, especially in rural areas where well-water is used. Wastewater treatment facilities are almost nonexistent, so untreated wastewater is discharged to surface water.

The situation in the field of protection from contaminated water is especially alarming. A lack of new flood protection systems is evident, while existing systems are considerably damaged or neglected as a result of conflict in Bosnia and Herzegovina.

Potable water in cities is supplied from groundwater (47 percent), wells and springs (27 percent), and surface sources (20 percent), with the remainder coming through infiltration. Water production was estimated at 420 litres per capita per day, of which 134 (or 32 percent) went to households, 147 (35 percent) to industry, and 139 (33 percent) to water loss. Drinking water supply services cover only 56 percent of FBiH and 48 percent of RS, as compared with over 90 percent in Europe.

Water resources are under potential threat from organic pollution resulting from inadequate direct protection and insufficient wastewater treatment plants. Other threats come from inadequate maintenance of sewage systems, intense exploitation of forests, and uncontrolled use of pesticides. In most cases, water sources are not bacteriologically safe.

Almost 90 percent of wastewater is released without treatment directly into the nearest rivers, streams and underground channels. Around 56 percent of the urban population is connected to a sewage system. For settlements of more than 10,000, the extent of coverage rises to 72 percent, while in smaller settlements this decreases to about 10 percent.

In many cases, sewer systems have not been completed, and are often only partially designed and constructed; in some locations, their capacity is insufficient to receive storm water. Maintenance is mostly inadequate and no regulations or legislation for such activities exist. Some parts of the systems in turn require replacement of the damaged area, and about 850 kilometers of pipeline require cleaning.[3]

Water supply systems in Bosnia and Herzegovina are still subsidised by the entity, cantonal (in FBiH), or municipal governments. The current prices established by the municipalities and water companies are too low to adequately meet the requirements for normal functioning and maintenance. The funds collected through water fees are insufficient for major investments.

Air

In Bosnia and Herzegovina, the main sources of air pollution are stationary, and include coal-powered plants and industry. Large thermal power facilities use domestic coal with low calorific values and relatively high sulphur content. Even though these facilities are usually located in the vicinity of mines and are equipped with tall stacks and modern filters for exhaust, they still emit considerable quantities of sulphur dioxide, whose emissions are not regulated in BiH.

A primary obligation for BiH (due to international agreements concerning air quality) is to gather the data needed to evaluate the gas emissions that are included in conventions.[4] Bosnia and Herzegovina is now establishing a system for analysing statistical data to correspond to the current institutional configuration.

The basic causes of excessive air pollution in Bosnia and Herzegovina include:

- the nature of the industry with its large energy and metallurgy capacities built for the needs of the major part of the former Yugoslavia (with 18 percent of the population of the former Yugoslavia, BiH contributed 13 percent to the national GDP, while its share in the emission of sulphur dioxide amounted to 28 percent);
- inappropriately built fireboxes in stoves and low-capacity boilers mainly built in accordance with Western European licenses designed for other types of coal, which did not enable efficient and low-pollution combustion of domestic coal;
- nonexistence of guidelines for consumption of coal based on quality and local environmental conditions;
- nonexistence of technologies for refinement of coal intended for small fireboxes;

- poor maintenance of energy and industrial plants, particularly of the equipment critical to emission of pollutants;
- state priority given to employment figures over environmental effects;
- short-term objectives of political leadership;
- lack of knowledge about environmental management; and
- almost complete lack of awareness and information regarding cost-effective energy use.

Traffic, particularly in urban areas, is a significant source of air pollution. In urban centres, the traffic, i.e. its lack of regulation, low speed and frequent stopping, presents a danger to human health, as it causes high emission of pollutants.

In Bosnia and Herzegovina, the emission of sulphur dioxide (SO_2) into the atmosphere is very high, in spite of the low level of industrialisation and urbanisation. (Although the data and analyses here refer to the pre-war period, they remain meaningful today, because the causes have not been eliminated.)

Despite the high share of fossil fuels in the energy system of BiH, CO_2 emission in BiH is not high thanks to low overall consumption of energy per capita. BiH coal is younger coal, with low heat content (two times lower on average than coal in Poland and England). Thermoelectric power plants use some coal with even lower heat content (8-12 megajoules per kilogram). Fuels used have a wide range of sulphur content, and BiH coal has high ash content, and many have high alkaline-compound content.

Technology normally accounts for less than 10 percent of air pollution. In BiH, however, this form of pollution is significant. The foremost polluters of air are the iron and steel industries, based on the processing of ore from the Vares mine, in which sulphur content is 10 times higher than the world average; the same ore contains high percentages of heavy metals. The Zenica Steelworks is now in the process of technological restructuring and its emission levels after restructuring are unknown. The BiH paper industry is another major air polluter.

Biodiversity

Bosnia and Herzegovina anchors much of the biological diversity and broader natural resources of the Balkans. Considering the number of species and the relatively small land area, the country is among the five richest countries in Europe in terms of species density and diversity. The flora of BiH contains some 3,572 plant species, subspecies, and varieties, 500 of which are endemic. About 19 percent of plant species are thought to be under significant threat from land conversion, unsustainable management, and exposure to pollutants. The vertebrate fauna of Bosnia and Herzegovina includes some 502 species, 29 of which are threatened.[5]

The main threats to biodiversity emerge from the characteristics of post-conflict economics forcing mining of otherwise renewable natural resources; limited public awareness of mechanisms to improve resource conservation; the lack of a coherent legislative framework and of substantial regulatory capacity; and policy and market failures that substantially undervalue environmental goods and services. Direct threats are posed on nature by:

- near non-existence of a protected areas network;
- unplanned conversion of land with high conservation value;
- poor forest management and wood use;
- untreated municipal and industrial wastewater discharge;
- localised overexploitation of forests; and
- absence of environmental information and monitoring systems.

About 50 percent of the country is covered by forests and 25 percent with pastures. It is mostly hilly and mountainous, with only five percent of territory classified as plains, 24 percent as hills, 29 percent as karst, and 42 percent as mountains. With its rich forest ecosystems, spectacular landscapes and opportunities for nature-based tourism, development of a protected area network is a priority for Bosnia and Herzegovina, as only 0.55 percent of the territory is formally protected. This puts BiH on the very bottom of the European list determined by the IUCN criteria. Wetland and aquatic ecosystems are some of the most endangered areas, subject to intense devastation and degradation. Financing the protection of natural heritage is inadequate; in principle, it is financed from the budget on the basis of partial use of protected estates.

National Environmental Priorities

The National Environmental Action Plan (NEAP) identified issues relating to environmental protection with measures proposed for their resolution. Solutions to all major problems identified are in excess of the available financial, and institutional capabilities and resources. Two specific areas — preconditions for implementation of the proposed activities — were the focus of NEAP: legal and institutional strengthening, and preparation of strategies for planning and environmental management.

ENVIRONMENTAL PRIORITIES BY FIELD

No.	PRIORITY FIELD	PRIORITIES
1.	WATER RESOURCES/ WASTEWATER	• Preparation of integral plans for control of river basins; • Execution of the project for long-term water supply for populations in the most endangered regions of BiH, including the rehabilitation of water loss in water systems; • Reconstruction and initiation of existing systems for wastewater cleaning and construction of sewage systems and machinery for cleaning, highest-priority areas first; • Rehabilitation of flood prevention systems to the required security level to enable adequate protection of population and land while facilitating the needs of sustainable development in jeopardised regions and sustainable power production; • Execution of projects related to the use of water in irrigating agricultural fields and production of electrical power.
2.	SUSTAINABLE DEVELOPMENT OF RURAL REGIONS	• Sustainable development of rural areas; • Food production based on biological principles; • Cultivation of agricultural soil with the objective of higher production as a function of eliminating/decreasing poverty; • Soil categorisation to foster rational soil use, sustainable development and sustainable spatial management; • Coordination of entity planning; • Preparation of a programme for long-term development of forestry.
3.	ENVIRONMENTAL MANAGEMENT (INFORMATION SYSTEM/ INTEGRAL PLANNING/ EDUCATION)	• Introduction of information systems (monitoring, GIS, data for developing geodetic and other layouts, climate change, supply of equipment for measuring and control units); • Environmental education.
4.	WASTE/WASTE MANAGEMENT	• Establishment of a strategy for waste management with an operative programme for its implementation; • Elimination of illegal dumpsites and rehabilitation of degraded regions; • Rehabilitation of a number of existing landfills.
5.	ECONOMY/SUSTAINABLE ECONOMIC DEVELOPMENT	• Sustainable development strategy for the BiH economy; • Preparation of a strategy for energy consumption in BiH, which also includes decreasing sulphur content.
6.	PUBLIC HEALTH	• Establishment of a unique 21st-century health policy and strategy according to the document "Health."
7.	DEMINING	• Demining

The priority areas were determined through a recognised NEAP prioritisation process based on expert sector and multi-disciplinary analyses, transparency and democratic principles with the participation of all stakeholders. The NEAP identifies priorities up to year 2020.

Subsequent to and based on the NEAP, the Poverty Reduction Strategy Paper (PRSP), which provides the action plan up to 2007, identified the following areas as priorities:

- institutional and legal priorities;
- air quality and climate change;
- water;
- soil/land;
- forests;
- waste;
- land use;
- biological and geological diversity, the cultural and historical heritage;
- public health; and
- improvement of environmental protection statistics.

In the area of water resources and management, the PRSP recognises the problem of mine water pollution control, prioritising it accordingly. In addition, the PRSP recognises the potential for utilisation of geothermal waters for heating, hydroponic crop cultivation, therapy and tourism. The PRSP provides a set of indicators for monitoring improvements in the water sector, which includes local, EU and other indicators; their application should be taken into consideration in BiH.

The section addressing the priorities for waste management recognised the importance of developing a framework and entity laws on mineral resources exploitation. This should provide for the complex use of mineral resources, minimisation of damage to the environment, granting of concessions and responsibilities concerning waste generation and management.

The PRSP considered air pollution, land/soil, and forests as priorities and addressed these problems by giving a list of priority measures. The PRSP gave the set of indicators for monitoring the improvements in the water sector, which includes local, EU and other indicators; their application should be taken into consideration in BiH.

National Funds and Economic Instruments for the Environment

Fulfilment of tasks related to integration with the European Union is not possible without efficient financing of environmental protection and economic support instruments. Besides ministries responsible for environmental protection, additional fundraising, the establishment of efficient overall financial management, and a project management system is needed. BiH is working towards establishing environmental funds in both entities. Environmental funds will play an important role in environmental policy implementation. Currently, each entity has adopted an environmental fund law. These laws have not been yet implemented; there are no management structures or flow of revenues. Laws also need further elaboration, on objectives, priorities and type of activities. At present, the technical assistance project CARDS is assisting in establishing environmental funds in both entities.

Required measures are the following:

- Establishment of environmental protection financial resources;
- establishment of an environmental protection fund;
- gradual increase in the price for using of certain natural resources;
- improvement of structures of existing economic instruments, and gradual and selective introduction of the new; and
- support of the improvement in the subsidy structure, i.e. tax exemptions in the public income system for investments in environmental protection.

Entity budgets draw income from economic instruments related to use and pollution of environment, e.g. special taxes, concessions and other fees. These funds are spent for various public functions, including environmental protection, but to a lesser degree. The state collects funds from special taxes on environment-polluting products, e.g. tobacco products, oil derivatives, cars and other road vehicles, ships and airplanes; from taxes for cars and ships; from tolls; from fines charged for pollution; and from concessions for water supply.

The two most obvious barriers to cost recovery are the current financial needs of the BiH government, which prevent long-term commitment to resolving environmental problems, and the business community's disbelief in financial and socioeconomic benefits gained by reducing environmental degradation.

Industry resists the introduction of adequate prices for water, energy and raw materials, as well as pollu-

ENVIRONMENTAL PRIORITIES IN THE 2005 EUROPEAN PARTNERSHIP

Short-term priorities

- To adopt a State Environmental Law to create the framework for nationwide harmonised environmental protection;
- To establish and ensure the proper functioning of the State Environment Agency.

Medium-term priorities

- To continue strengthening administrative capacity of the institutions involved in environmental protection, particularly at the state level, and to ensure the implementation of already transposed legislation;
- To ensure that a functioning environmental monitoring system is in place.

tion fees that could be used to cover the costs of environmental remediation and preservation of natural resources. In addition, failure to incorporate environmental protection measures in economic development plans will simply increasingly compromise product acceptability to non-domestic consumers.

Water supply systems are still being subsidised by either cantonal or municipal governments. The current prices, established by the municipalities and water companies, are too low to adequately meet the requirements for normal functioning and maintenance. The funds that are collected through water fees are insufficient for major investment, which has resulted in low or inefficient investments, lack of development, low service levels, and resistance from the population to pay for the services. Mistakes in the past have led to uneconomical water consumption and further degradation of this resource.

Financing the protection of natural heritage is inadequate. In principle, it is financed from the budget on the basis of the partial use of protected estates.

EU-Bosnia and Herzegovina Relations: the Stabilisation and Association Process

Bosnia and Herzegovina is participating in the Stabilisation and Association Process (SAP). Currently, no contractual framework between the European Union and Bosnia and Herzegovina exists. Political and technical dialogue has been taking place through the Consultative Task Force (CTF), which meets regularly several times a year. Formal contractual relations should be established through the conclusion of a Stabilisation and Association Agreement (SAA). Negotiations regarding an SAA began on November 25, 2005.

The European Council endorsed the introduction of the European Partnerships as a means to materialise the European perspective of the Western Balkan countries within the framework of the Stabilisation and Association Process. The first European Partnership with Bosnia and Herzegovina was adopted by the Council on June 14, 2004. The second European Partnership, adopted in 2005, identifies new priorities for action. The new priorities are adapted to the country's specific needs and stage of preparation, and will be updated as necessary. The European Partnership also provides guidance for financial assistance to the country. Bosnia and Herzegovina is expected to develop a plan including a timetable and specific measures to address the European Partnership priorities.

EU Assistance

The European Commission supports reforms in Bosnia and Herzegovina through CARDS, which has been the main financial instrument for cooperation with Western Balkan countries since 2001. The main priorities for CARDS assistance in BiH are democratic stabilisation, administrative capacity building, social and economic reforms, justice and home affairs, and environment and natural resources. In the period 2001-2004 BiH received EUR 308.83 million, of which EUR 18 million has been directly applied to environment, i.e. legal framework, policy, water and waste management). To this figure can be added projects devoted to rural development and agriculture and local development, which may contribute to improving the environment. BiH also receives funds from the CARDS regional programme, which finances the collaboration of SEE countries with the European Environment Agency and Regional Environmental Reconstruction Programme activities, for example.

The European Union is funding a EUR 1.7 million project in Bosnia and Herzegovina from 2003 to 2005 to enhance awareness of environmental problems and the links between environmental protection and economic sustainability. The immediate targets are central government ministries responsible for environment, but the wider objective is improved coordination with similar projects to enhance sustainable environmental management across the country.

Recent support through CARDS has been provided for capacity building for environmental management, waste and water-quality management, and air monitoring; for compliance with the EIA Directive in the development of the national environmental monitoring system, river basin management programme; for technical assistance in the establishment of an environmental fund, providing support to environmental field inspection; for environmental civil society; and others.

The Development of the Environmental Legislation project funded by the PHARE Programme resulted in a new set of environmental laws, providing a new structure for the environmental sector. The proposed structure has some elements of previously proposed institutional schemes but was not fully harmonised with them. The laws which resulted from these recommendations have been adopted by both Entity Parliaments: by Republika Srpska in August 2002 and by the Federation in July 2003.

Relations with International Financial Institutions

Following its independence, BiH became a member of various international financial institutions. It joined the World Bank in February 1993, the European Bank for Reconstruction and Development (EBRD) in June 1996, and the Global Environmental Facility (GEF) in October 2001.

In September 2004, the World Bank adopted its Country Assistance Strategy for 2005-2007, which focuses on reforms in the areas of public finance and administration, private sector development and key social and economic infrastructure. The World Bank supported the preparation of the National Environmental Action Plan (NEAP). Today, it is preparing analytical work to identify environmental issues connected with actions supported by policy-based lending such as privatisation, and has a substantial programme of support for solid waste management and water/wastewater treatment. The World Bank has also actively supported a number of other environmental projects. One of the most important has been the solid waste management project, which resulted in the development and approval of the Solid Waste Management Strategy, which both entities have adopted. Other projects include forest development and conservation, small-scale commercial agriculture development, local initiatives, water supply and sanitation, strategic environmental assessment, education development and electric power reconstruction. The objectives of the 2002 World Bank project Urgent Strengthening of Environmental Institutions in Bosnia and Herzegovina were to improve the institutional framework for environmental management in BiH at local, national, and state levels; to improve the environmental policy framework, and environmental monitoring and information systems.

The European Bank for Reconstruction and Development mainly supports institutional building in the enterprise sector, infrastructure development and the financial sector. The EBRD has worked on mitigating environmental damage, in particular with industrial clients and the power sector. Together with the European Commission, it has also been working on upgrading BiH environmental legislation.

With its accession to the United Nations Framework Conventions on Climate Change in 2000, BiH became eligible for Global Environment Facility (GEF) funding, and it is using the opportunity to request funds in assisting implementation of this convention. GEF has already approved one project for national capacity self-assessment for global environmental management and two others await approval. The latter projects concern regional ecosystems and forest, biodiversity, and international water protection and sustainable use. BiH has prepared proposals for GEF funding of its national biodiversity conservation strategy and action plan, the development of its national implementation plan for the Stockholm Convention on Persistent Organic Pollutants and the preparation of its first national communication to the UN Framework Convention on Climate Change.

REReP Priority Areas

State of Legal, Policy and Institutional Framework

In order to improve and standardise environmental legislation, both entities drafted new sets of environmental laws in accordance with the European Union legislation.[6] The development of proper enforcement mechanisms has hardly begun. A sorely needed state-level environmental law is being pre-

pared. In the meantime, the differing internal structures within BiH are driving the environmental laws of the separate entities further and further apart.

To date, each BiH entity has adopted a set of six new environmental laws, which build a legal framework for the introduction of efficient environmental management in the country. The following six laws are harmonised with EU environmental legislation: the Framework Law on Environmental Protection; the Law on Air Protection; the Law on Water Protection; the Law on Waste Management; the Law on Nature Protection; and the Law on the Fund for Environmental Protection. These laws represent a framework for the legal protection of the environment; set forth basic principles of protection; define basic notions, terms, and authorities responsible for policy implementation; and lay down basic rules for drafting specific measures in environmental protection policy implementation, environment conservation and improvement.

Although these laws have been drafted in a modern and Europe-compatible form, spirit and expression, their full implementation is at this point unfeasible bearing in mind the existing financial situation in BiH. However, BiH legal experts have nonetheless been working on drafting more than 80 bylaws to provide for the implementation of the most important provisions and to set a solid basis for further work towards a full implementation and affirmation of environmental laws.

The National Environmental Action Plan, another important instrument for implementing environmental policy, was developed within a project supported by the World Bank in 2003. The NEAP describes the current situation in the environmental sector in BiH, identifies and analyses major environmental problems, lists the main goals and priorities established during the consultation process, and describes measures for achieving these. This document would serve as the most important planning document for strategic action in the environmental protection policy for qualitative improvement of the current situation. The NEAP primarily takes into account the resolution of priority issues regarding the environment through institutional changes and strengthening of human resources, and, in the sense of recognition and definition, basic, fundamental guidelines and goals related to long-term environmental management based on economic, social, scientific, educational and other capabilities of the state. The document is based on the principles of sustainable development and direction of the national programme of fighting poverty.

The complete process of NEAP preparation is organised on partnership principles with full transparency, presence of the public, availability of all information, and most importantly, with direct participation of all relevant participants in its preparation, including the Council of Ministries, entity- and cantonal-level ministries, members of the environmental steering committee of BiH (ESC), local administration, institutions, scientists, experts, nongovernmental organisations and individuals.

In parallel with the NEAP, the complementary project of the Poverty Reduction Strategy Paper was conducted, initiated and financed by the World Bank. This project has included groups of issues and has clearly defined their connection with the measures and goals enumerated in the NEAP document as follows:

- the influence of development strategies of the state on the environment and sustainability;
- basic guidelines for environmental activities of NEAP and their effects on poverty;
- environmental health priorities in health care policy and poverty reduction; and
- demographic and social issues, environment and poverty.

This common state strategy determines the principal medium-term economic development priorities in BiH, taking into account their environmental aspects as well.

In Republika Srpska, environmental protection is the responsibility of the entity. In FBiH, it is divided between entity and cantons, with each of the ten Cantons having their own ministry in charge of the environment. There are no cantons in RS, and municipalities comprise the next tier of government with environmental management responsibilities. In the district of Brcko,[7] responsibility for environmental issues is delegated by the District Government to the Communal Affairs Authority.

Presently there is recognition of the need to transmit certain environmental competencies from entity to state level, and to provide coordination of environmental protection activities on inter-entity levels.

The legal, constitutional basis for establishing environmental authorities on the state level is rather weak. However, there is a basis to provide this through adoption of the framework environmental law on the state level. New environmental laws, adopted in both entities in the last two years, call for the establishment of inter-entity coordinating bodies. The Framework Laws on Environmental Protection

foresaw the need for an inter-entity environmental coordinating body with eight members, four to be appointed by the Government of FBiH, and four by the Government of the RS.

In practice, two voluntarily established inter-entity coordination and advisory bodies are presently in place. These are the ESC and the Water Steering Committee of BiH (WSC).

At the state level, only one coordinative, consultative and advisory body has been established. In May 2002, the state council of ministers established the Steering Committee for Environment and Sustainable Development of Bosnia and Herzegovina. Its members include representatives from various governmental institutions, i.e. ministries, at state and entity level; the District of Brcko; business associations, i.e. chambers of commerce and industry; universities; NGOs and other bodies which deal with environment protection issues; and independent experts from several fields of expertise.

There is a glaring need for, among others, in-country harmonised legislation, permit procedures, environmental standards, and monitoring, through the state environment agency and/or the ministry for environment. Other problems with environmental management in BiH include inadequate expertise and resources both financial and human; a lack of enforcement ability; a lack of awareness and unavailability of information sources for all stakeholders; an ineffectual and inefficient approach by bodies given the role of environmental protection; and a lack of coordination between the various levels of government involved. Another perceived weakness is the lack of integration and inter-sectoral communication.

State of Environmental Civil Society

The new Framework Laws on Environmental Protection in both entities introduce rights of the public to have free access to environmental information,[8] an opportunity to participate in environmental decision-making and to have access to legal remedies in order to enforce these rights.

Environmental NGOs in Bosnia and Herzegovina took root only after the transition from the communist period, during which they failed to consistently play their role in representing civil society. During the recent conflicts, the NGOs either ceased to exist or were prevented from carrying out their activities. In the environmental NGO sector, BiH shows a clear lack of strategy and capacity development of organisations and individuals within organisations. A basic problem is the lack of adequate mutual NGO cooperation and networking in line with programme goals and objectives. There have been attempts at an organised approach to environmental issues, however, with positive examples and steps forward in solving those problems, but the entire process requires continued and firm support. One example is the electronic networking of environmental NGOs which, through the www.ekomrezabih.net portal, maintains connection among NGOs, raising various issues and providing the opportunity to inform a wider public with issues related to BiH legislation and international environmental conventions.

Studying the funding sources of environmental NGOs in BiH, it is clear that the dominant role in NGO-sector funding is still played by international organisations and foreign donations. Support from local institutions, i.e. ministries and local administration, can be seen, but this form of funding, albeit growing, remains meagre. In some areas, the local business sector has also recognised NGOs as partners in society, finding interest in financing parts of NGO activities. Some NGOs are trying to finance themselves by launching independent businesses and imposing membership fees, an attempt to move toward self-sustainability. The self-sustainability of the NGO sector in BiH is surely a frequently and comprehensively debated topic. Although initiatives in BiH to draft a sustainable development strategy in the BiH NGO sector exist, NGO funding and sustainability remain issues of concern.

State of Regional and Cross-border Cooperation

Bosnia and Herzegovina takes part in the Regional Environmental Reconstruction Programme (REReP), which is the main environmental component of the Stability Pact. Funding is made available through the REReP for regional and subregional activities. BiH has participated in projects related to the ratification and implementation of multilateral environmental agreements; capacity building for environmental impact assessment and strategic environmental assessment; strengthening of environmental agencies and inspectorates; developing an environmental information system; hazardous waste management; rehabilitation of urban environmental systems; river basin management; and cross-border cooperation.

An agreement on cooperation between the FORMEZ[9] National Public Agency of the Government of the Republic of Italy, the Ministry of Foreign Trade and Economic Relations BiH (MoFTER) and the entity

ministries for environment is awaiting signatures. This agreement is part of the Memorandum on Understanding between BiH and FORMEZ for the Initiative for Regional Cooperation: Strengthening and Qualification of Public Administration in Six Balkan Countries. The agreement deals with the management of protected areas and has already been signed by the president of FORMEZ.

Bosnia and Herzegovina has signed an agreement with Croatia on water management. A project document is being worked out involving BiH and Croatia on integrated management of ecosystems of the Neretva and Trebisnjica river basins.

State of Environmental Health Threats and Loss of Biodiversity

Public health in BiH is considered through the following aspects of environmental protection: drinking water; air quality (indoors and out); food safety; treatment of solid and liquid waste; ionised and non-ionised emissions; appropriate housing; noise; animal health and its impact on human health; and accidents (chemical, human, natural), prevention and treatment.

Problems related to water quality in BiH are numerous. Though there are legal regulations regarding water control and monitoring public health, which are mandatory and include the control of springs, sanitation zones of water facilities and water hygiene, they are only partially applied. The quality of the water supply is poor and is not in accordance with the required standards. The most common cause of irregularities in drinking water are microbiological parameters (i.e. heterotrophs, total koliforms and fecal streptococci), chemical parameters (i.e. ammonia and nitrates), and blur levels.

Air quality in indoor areas is a significant factor in achieving a healthy environment. Emission of radon from soil and construction materials is considered serious worldwide, and BiH does not have the data for its facilities. Other negative influences include house dust, smoking, open flames, heating devices and the use of cleaning materials.

Activities related to hygiene control of food and cattle feed are currently being completed at a veterinary facility followed by the implementation of modern methods and techniques for microbiological, toxic and radiological analysis. BiH institutions still cannot confirm mad cow disease in its earliest stages due to inadequate diagnostic equipment.

Waste management in FBiH is unacceptable in terms of ecology and health criteria. Due to an increased amount of waste and inadequate sanitation, waste constitutes the largest ecological problem. Current practices of waste disposal cause direct pollution of land, water, food and air. For the most part, disposal sites are used without special protection measures, are mostly improvised, and have become a part of the urban ambiance. Of special interest are expired medicine and medical matter, which arrived to BiH as humanitarian assistance.

Liquid waste material from houses and precipitation are removed centrally through sewage only in larger settlements representing 50 percent and 34.7 percent of the population in FBiH and RS, respectively. Only one sewage network in Republika Srpska has equipment for purification (Trebinje), while 15 percent do in FBiH, so this wastewater goes directly to the recipient, typically in the form of an open water stream.

The contamination of land with low content uranium and possible endangerment of people's health as a consequence of the use of munitions with low content uranium is still not solved and it is a source for various speculations.

One important element of the living environment in cities, settlements and work environment is noise caused by sources such as technical devices used in housing units, industry and traffic, the latter of which is the greatest source of noise in cities.

Estimates claim that 1 million unexploded mines in 16,000-20,000 minefields still sit in BiH territory. In the approximately 1,500 minefields in Sarajevo, five percent of the total number of mines have been removed. The most affected areas are Gornji and Donji Vakuf, Travnik and Zenica, Mostar and Tuzla, and many other areas that are not officially recorded. Large-scale demining is currently taking place in BiH.

Documents linking health with risk factors in a living environment are, according to the World Health Organization's European strategy Health for Everybody in the 21st Century adopted at the national level as the National Action Plan for Health and Environment of the Federation of Bosnia and Herzegovina and the National Action Plan for Health and Environment of Republika Srpska. These documents are the result of joint action of the Institute for Public Health of FBiH, the Ministry of Health, the Ministry of Environment and Urban Planning, the Ministry for Agriculture, Water system and Forestry in FBiH and the Ministry of Health and Social Protection of the Republic of Srpska. Pressure placed on biodiversity, geodiversity, natural heritage and cultural heritage by imbalanced development in all segments of social and economic organisation in BiH has caused severe problems in the environment. This trend continued after

the conflicts, when the intense transition and privatisation process opened a number of issues on the position and protection of natural and cultural values. The current problems are also contributed to by the deficiency of adequate up-to-date legislation, and the deficiency of sufficient implementation of existing regulations in all spheres of planning.

Forestry, with branches of agriculture, is one of the greatest enemies of biodiversity. In BiH today, exploitation of wood is out of proportion, as is hunting. Collection of plants and animals of economic significance is now done unplanned and imbalanced. No plan for sustainable exploitation of medicinal herbs, snails, amphibians, reptiles and decorative undomesticated plants and animals exists in any part of the country. A number of species, including some endemic to BiH, have reached international red lists. Agricultural production has still not been adjusted to specificities of soil and ecosystems, especially in highland areas and in areas with high groundwater levels. The presence of mines in mountainous areas causes difficulty in maintaining mine-free ecosystems without sheep, goats and cattle in excess of defined standards.

Pisciculture is more and more present in BiH's rivers and lakes. Fishponds are typically built without plan or selection and atop high-quality water sources. In addition, foreign breeds of fish are endangering the habitat of domestic species. Biotechnology contributes to identification and characterisation of biodiversity at a genetic level, offering opportunities for development and use of ecologically acceptable products and processes.

In the intense and imbalanced urbanisation process, through residential construction, industrial construction, and construction of roads and infrastructure, BiH daily loses hectares of useful soil and habitats of diverse valuable species. This process intensified in the post-war period, when most of the population moved to towns, while villages were left sparsely populated or abandoned altogether; the end result is further stress on and exploitation of biodiversity. Non-ecologic industrial production is inevitably accompanied by the discharge of environmentally hazardous substances throughout the ecosphere.

ENDNOTES

1. This number contains only those individuals who are registered through employment in companies. Otherwise, a far greater number of people are in agriculture producing goods for their own needs, but they are not included in the employment data.
2. The critical agricultural land area needed for production of the required amount of food and raw materials for the survival of the population amounts to 0.17 ha per capita. The area per capita in FBiH is therefore a cause for concern.
3. Water Sector Institutional Strengthening Project in RS and FBH, Phare 1999.
4. The most important methodology in this field is EMEP/CORINAIR from 1990, for the preparation of cadastres of emission in the atmosphere, which includes 11 main categories of emission sources by sectors as well as IPPC methodology from 1996. The analysis includes a list of eight pollutants: SO_2, NO_X, NMVOC, NH_4, CO, CH_4, NO and CO_2.
5. Source: UNEP-WCMC, IUCN 2004
6. Law on Environmental Protection ("Framework Law"); Law on Nature Protection; Law on Air; Law on Water Protection; Law on Waste Management; The Law on Environmental Protection Fund.
7. The District of Brcko, as a unique territorial and administrative unit in BiH, was established by the Decision of Special Arbitrage in accordance with the Framework Peace Agreement for Bosnia and Herzegovina. It is directly under the power and supervision of the State of BiH, and the State laws which directly apply to it. The Statute of Brcko defines the basic division of powers and responsibilities of the District. The District performs its legislative power through its Parliament, and its executive / administrative functions through the District Government.
8. Access to information is additionally regulated by the state as well as the entity laws on free access to information held by government.
9. The FORMEZ is an institute that operates to national level and answers to the Department of the Public Function of the Presidency of the Council. For more information, visit: <www.formez.it>.

REFERENCES

Bosna-S Oil Services Company. *Bosnia and Herzegovina Urban Infrastructure and Service Delivery Project.* Sarajevo, 2004.

CIA. "Bosnia and Herzegovina" in *The World Factbook.*

EBRD. *Transition Report,* 2005.

EC. *Bosnia and Herzegovina 2005 Progress Report.* Brussels, November 9, 2005.

EC. *European Partnership with Bosnia and Herzegovina.* Brussels, November 9, 2005.

EC Directorate-General for Economic and Financial Affairs. *The Western Balkans in Transition.*

Environmental Health Watch. *Give Me Shelter.*

KJKP RAD official website <www.rad.com.ba>.

Red Cross. *Bosnia and Herzegovina Annual Appeal 2005.*

USAID/Bosnia & Herzegovina, authored by Dave C. Gibson, Ron Sissem and Samir Dug. *Bosnia and Herzegovina Biodiversity Assessment,* 2003.

UNEP/WHO/HABITAT/WSSCC. *Guidelines on Municipal Wastewater Management.* UNEP/GPA Coordination Office, The Hague, 2004.

UNEP-WCMC, IUCN 2004.

UNESCO-IHE Alumni from Central and Eastern Europe. *Current Practices and Challenges in the Water Supply and Sanitation Sector Seminar Material.* Sarajevo, May 2004.

World Bank. *The Little Green Data Book,* 2004.

Millenium Development Goals Report for Bosnia and Herzegovina, 2003.

National Environmental Action Plan for Bosnia and Herzegovina, March 2003.

Poverty Reduction Strategy Paper for Bosnia and Herzegovina, 2003.

Environmental Profile: **Croatia**

LOCATION

South Eastern Europe, bordering the Adriatic Sea, between Bosnia and Herzegovina, Slovenia, Hungary, and Serbia and Montenegro

AREA

Total:	87,677 sq km
Land:	56,610 sq km
Water:	128 sq km
Sea:	31,067 sq km
Adriatic river basin:	22,134 sq km
Total coast length:	5,835.3 km
Coast length:	1,777.3 km
Insular coast length:	4,058 km
Number of islands and islets:	1,185

LAND BOUNDARIES

Total:	2,028 km

Borders: Bosnia and Herzegovina (932 km), Hungary (329 km), Serbia and Montenegro (266 km), Slovenia (501 km)

CLIMATE

Mediterranean and continental; hot summers; cold winters; coastal areas milder in winter and drier in summer

ELEVATION EXTREMES

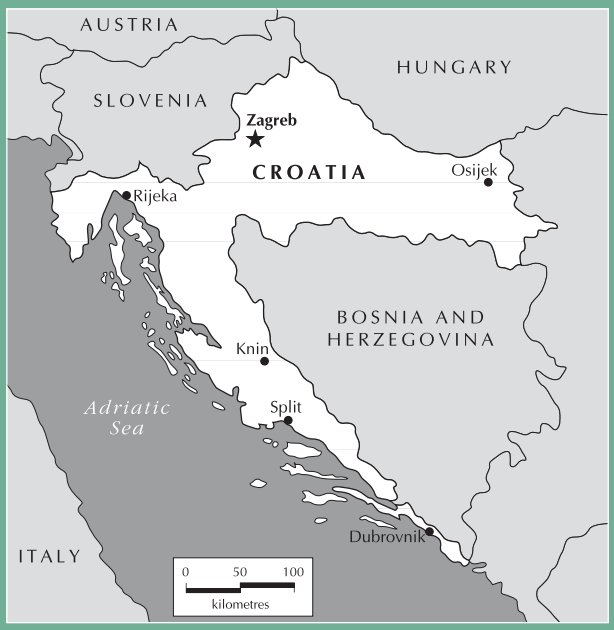
Lowest point:	Adriatic Sea — 0 m
Highest point:	Dinara — 1,830 m

NATURAL RESCOURCES

Bauxite, calcium, clay, coal, gypsum, hydropower, low-grade iron ore, mica, natural asphalt, oil, salt, silica

NATURAL HAZARDS

Destructive earthquakes, floods, fires and tidal waves in coastal areas



CURRENT ENVIRONMENTAL ISSUES

Waste management, especially on remediation of municipal landfills; wastewater collection and treatment; as well as water supply; air pollution; acid rain

MAIN ECONOMIC TRENDS

	2002	2003	2004	2005 (projected)
Growth in GDP (real change in percent)	5.2	4.3	3.8	3.5
Inflation (percent change in annual average consumer price level)	2.2	1.8	2.1	2.9
Foreign direct investment (in million USD)	591	1,700	898	1,000
Unemployment rate	14.8	14.3	13.8	n.a.

Environmental Profile: **Croatia**

Introduction

The Republic of Croatia lies on the northwestern seaboard of the Balkan Peninsula. It has a population of 4.43 million and a territory of 56,610 square kilometres, including over 1,000 islands. Of this territory, 53 percent is agricultural land, 43.5 percent is forestland, and 0.6 percent is wetlands. The coastline, which extends 1,777 kilometres, makes up over one-third of the border. Croatia lies on the edge of two major climatic regions, the Mediterranean and the Central European continental region. The mainland can be divided into three distinct areas: the Pannonian plain, the Adriatic highland basin, and the Dinaric mountain range. Croatia has a population of 4.43 million, and about 800,000 live in the capital, Zagreb.

Croatia boasts a wealth of biodiversity, with around 34,000 known taxa present, of which 7,523 are plant species, 24,087 are animal species, 1,744 are fungi and 925 are lichens. Croatia has a great diversity of ecological systems and habitats. Within its territory there are wetlands, flood, mountain and Mediterranean forests, karst areas, coastal lands, islands, sea and arable land and grasslands.

Environmental protection is traditionally divided between different administrative bodies, (sectors or directorates) with separate authorities, often making an integral approach to environmental protection more difficult. After the last governmental reorganisation at the beginning of 2004, several changes occurred in the organisational structures and responsibilities of state environmental institutions. The former Ministry of Environmental Protection and Physical Planning (MEPPP) was reorganised as the Ministry of Environmental Protection, Physical Planning and Construction (MEPPPC). The current responsibilities of MEPPPC do not cover nature protection. Authority over the Nature Protection Division was transferred to the Ministry of Culture. The former State Water Directorate was transferred to the Ministry of Agriculture, Forestry and Water Management as a new division. The mandate of the former state directorate has remained unchanged. Responsibility for industrial pollution control and risk management is shared between the MEPPPC, the Ministry of Agriculture, Forestry and Water Management, the Ministry of Health and Social Welfare, the Ministry of Economy, Labor and Entrepreneurship and the Ministry of Interior Affairs.

The Environment Protection Agency was established in 2002. Its main task is environmental data management. The State Institute for Nature Protection was established in 2002 and as of September 2003 is the state body responsible for implementation of nature protection policy and technical expertise for the Nature Protection Division within the Ministry of Culture. The Fund for Environmental Protection and Energy Efficiency (FEPEE) was established as an extra budgetary institution in order to ensure additional funds for environmental protection, energy efficiency and use of renewable sources of energy by the Environmental Protection and Energy Efficiency Fund Act in 2003. The fund became operational in January 2004.

Croatia is a member of many initiatives currently taking place, including REReP, the Adriatic-Ionian Initiative, the Quadrilaterale (made up of Italy, Slovenia, Hungary and Croatia), the Central European Initiative (CEI), the South-East Cooperation Initiative (SECI), the Alps-Adriatic Initiative, the Danube Commission (ICPDR), the Interim Sava Commission, the Trilateral Croatian-Italian-Slovenian Commission for the Protection of the Adriatic Sea, and the South-Eastern European Cooperation Process (SEECP).

Current Environmental Conditions

Soil, Forests, Agricultural Land

Croatia has a rich natural resource base, with 53 percent of its territory covered by agricultural land, 43.5 percent by forestland, and 0.6 percent by wetlands. Over 90 percent of the soil surface is exposed to water and wind erosion of varying intensity, and particularly severe in the karst area, where erosion has reached the geological base. Central and coastal Istria are most affected, with eroded material of 100-200 tonnes per hectare annually. Large amounts of sediment enter the delta and are deposited along the Neretva River bank.

Soil contamination, mostly due to heavy metals, pesticides and petrochemicals, is generally extant in Croatia. Available information shows overall trends of acidification and soil compaction, and salinisation and alkalisation in eastern Slavonia and Barania.

Changes in land-use patterns are also widespread, causing the loss of 166,441 hectares of agricultural land between 1965 and 1987, at an annual rate of 7,235 hectares (or 20 hectares per day). Between 1975 and 1985, a number of plough-land areas and gardens were significantly reduced. In contrast, the increasing infusion of sea salt in the Neretva Delta results in locals claiming wetlands that are ecologically valuable wintering sites of waterfowl for agricultural use. Overall agricultural activity has not caused serious soil or environmental pollution, however, and the consumption of pesticides and mineral fertilisers in the private sector is fairly low: approximately 550,000 tonnes annually, or 25 percent of the Western European mean. Use of such product continues to decrease, and today is 50 percent lower than that of the end of 1980s.

With 43.5 percent (2,485,611 hectares) of its territory comprised of forests and forested land,[1] Croatia is one of the most plentifully forested countries in Europe. Coniferous and leaf forests, the most valued, are situated in the mountainous and hilly areas, while the Slavonian oak is characteristic of the lowlands of Slavonia. Forest fires, mostly due to human negligence, have been on the increase in areas with Mediterranean vegetation, and accelerate soil degradation. In 1996, some 3,129 fires destroyed 29,000 hectares of woodland. In the past 20 years or so, almost 7 percent of Croatia's forested land (or 2.5 percent of its total area) has been destroyed by fire.

Water

The Croatian Water Agency (Hrvatske Vode) measures the quality of fresh water at 270 monitoring stations via criteria including oxygen ratio, presence of nutrients, and microbiological and biological parameters. Water quality is given a designation on a I-V range, with category I the highest. CWA data show that the worst conditions are found in the large rivers of the Black Sea River Basin.

The Sava River, which in Slovenia passes through settlements with developed industry, e.g. Ljubljana, coal plants in Trbovlje and Zagorje, and the wood pulp factory in Krsko, is considered category III-IV. Flowing through Croatia, the Sava River is contaminated by industrial and municipal waste. Additionally, some of the river's tributaries have a high nitrogen and phosphorus content, which causes occasional river blossoming and oxygen deficiency. Drava River water quality is higher.

Although the river receives agricultural wastewater from neighbouring Slovenia, Austria and Hungary, its quality tends to improve on its way through Croatia. Data from 2003 on Croatian rivers, lakes and reservoirs show considerable improvement, although, because worsening of water quality is caused mainly by uncontrolled municipal discharge, there are fluctuations in planned water quality categories. Biological parameter measurements show the least deterioration, which indicates a long-term positive trend for the ecological state of the waters.

Numerous hydropower plants and water reservoirs in Croatia and neighbouring countries still hold high potential for electricity production but also the threats of changing water regimes and negative effects to ecosystems. The sewage system serves 40 percent of the population, with only 12 percent of all wastewater treated. In municipal wastewater alone, this figure is 4.4 percent, and less than 5 percent of water receives secondary treatment, while tertiary treatment units have not been introduced in the country.

Sea

Since 1998, some monitoring programmes have been implemented in Croatia, including the national monitoring programme known as the Systematic Research of the Adriatic Sea as a Base for Sustainable Development in the Republic of Croatia or "Project Adriatic," the National Programme for Monitoring the Sanitary Quality of the Sea on Beaches of the Croatian Part of Adriatic Sea and the National Programme for Monitoring Marine Pollution from Land-Based Sources.

Seven smaller enclosed bays in the Adriatic coastal area have been defined as hot spots for marine pollution caused by municipal and industrial wastewater discharges, pollution from ships and river sediment. These conditions have resulted in increased eutrophication levels and a higher concentration of nutrient salts and hazardous substances, i.e. heavy metals, DDT, PCBs and chlorinated hydrocarbons, than permitted by regulations. Nevertheless, the beach water quality in Croatia is very good, as determined by public health institutes in over 850 coastal and island locations. The results of seawater quality testing on beaches shows high quality, and about 98.5 percent of samples comply with prescribed standards. Lika-Senj County has the highest number of beaches with high-quality seawater.

Seasonal variations of bacteriological pollution and contamination with organic matter and sewage indicate that the sea pollution on beaches is connected with the sewage disposal in major cities, settlements and ports. The moderate pollution of beaches occurs in July and August, simultaneously with maximum quantities of

discharged wastewater. Other factors influencing the deterioration of the seawater quality in this time include an increase of marine-property users and weather conditions that impact sediment.

As a result of population density, and inadequate collection, drainage and discharging of wastewater, the seaside facing continental shores is much more burdened by wastewater than the coastal sea adjacent to the islands. The testing of seawater quality conducted near islands encompassed only the sea nearby urban areas, where the influence of wastewater is to be expected. The remainder of the shore was not monitored and is deemed clean.

Air

In 2002, total emission of greenhouse gases amounted to 28 kilotonnes of carbon dioxide (CO_2) equivalent, a decrease of 11.5 percent from 1990. The decrease in emissions from 1991-1994 caused by the war and closure of most heavy-industry facilities has become a slight upturn, showing a constant annual increase of 3.3 percent, with around 75 percent attributable to the energy sector. According to Kyoto Protocol obligations, Croatia must decrease its emissions, as determined by the baseline year 1990, in the period 2008-2012 by 5 percent.

Air quality in settlements has been improving in the last 10 years, thanks to the introduction of natural gas and heating facilities operated from heating plants, the substitution of alternative fuel sources to coal, and gradual reconstruction of the Croatian economy toward environmentally cleaner technologies. Due to use of fuel with lower sulphur content in power plants from 1999 and a decline in energy consumption, sulphur emissions have been decreased by 61.5 percent, carbon monoxide (CO) emission by 12 percent, and NMVOC emission by 36 percent from 1990 levels. However, emission of nitrous oxides (NOx) has increased due the constant increase in automotive transport, the most signficant contributor of such emission.

Biodiversity

Compared to the majority of European countries, Croatia has a great diversity of ecological systems and habitats. Within its territory there are wetlands, flood, mountain and Mediterranean forests, karst areas, coastal lands, islands, sea and arable land and grasslands. This diversity is reflected in a wealth of biodiversity, including flora, mycoflora and fauna species. The wealth of Croatia's endemic taxa, as well as of numerous rare and threatened relicts from the Tertiary and Ice Age, is particularly notable in the karst underground, coastal mountains, and offshore islands. As the ministry responsible for nature conservation in Croatia, the Ministry of Culture is implementing the Karst Ecosystem Conservation Project, financed by Global Environmental Facility through the World Bank, with the goal of improving conservation and sustainable use of the karst ecosystem.

Croatia boasts a wealth of biodiversity, with around 34,000 known taxa present, of which 7,523 are plant species, 24,087 are animal species, 1,744 are fungi and 925 are lichens. However, this figure represents around half the estimate of total Croatian species, including those of unexplored territory. This latter statistic testifies to the low degree of exploration of Croatian flora, mycoflora and fauna. The most extensive knowledge exists of the higher species of plants, i.e. pteridophytes, gymnosprems, and angiosperms, with 4,288 species; vertebrate species number 1,085.

Systematic study and monitoring of the local biological diversity must be strengthened, and a national programme to inventory Croatia's biological diversity is to be developed. Croatia is one of the few European countries without maps detailing flora, mycoflora and fauna and still lacks the essential field guides for identification of species, which would enable a larger circle of nature lovers to join in inventorying. This issue is expected to be solved by a CARDS technical assistance project aimed at helping the State Institute for Nature Protection develop a biodiversity inventory and monitoring scheme, and a methodology for assessment of protected-area management plans, which would aid in efforts toward increasing insight and improvement of the capability in protecting and carefully conserving the country's valuable biodiversity.

Currently, around 10 percent of Croatian land is protected, though there are proposals to increase this to a figure nearer the EU average of 15-20 percent. There are eight national parks and 11 nature parks under the auspices of the Ministry of Culture, Directorate for Nature Protection. Another six categories of spatial protection — two strict reserves, 79 special reserves, 31 natural monuments, 68 protected landscapes, 91 park-forests, and 138 park architecture monuments — are of the responsibility of counties, which are obliged to establish management authorities for these protected area categories in their respective territories. Due to limited resources, however, only seven of 21 counties have done so thus far, and the level of management in some areas is rather poor. With approximately 43 percent of the territory of Croatia being forested, and a high level of biodiversity, definition of the Natura 2000 site network will represent a major challenge. The protection of endangered species outside protected areas is envisaged by the new Nature Protection Act of 2003, but not yet fully ensured in practice. Several mechanisms, such as the measures

and conditions for nature conservation issued by the Ministry of Culture for activities which can affect biodiversity, e.g. hunting, riverbank maintenance, infrastructure, already exist within the Act, but enforcement of the prescribed measures is to be strengthened.

Croatia has cooperated with the Visegrad countries in building national ecological networks, and has recently finalised a project co-financed by the European Commission's LIFE III Fund, Building up the National Ecological Network as a Part of the Pan-European Ecological Network & NATURA 2000 Network (CRO-NEN). The new Nature Protection Act defines "national ecological network" (NEN) as a network of nationally and internationally important areas. The National Ecological Network Map was drafted as provided for by the Nature Protection Act, covering ecologically significant areas of international and national importance. NEN will be included in the Pan European Ecological Network (PEEN) being developed by the European Centre for Nature Conservation.

National Environmental Priorities

The main national priorities in the environmental field are the harmonisation of legislation relevant to that of the European Union, and resolution of the waste management situation.

A CARDS project on developing the EU Environmental Approximation Strategy to be finalised in early 2006 is expected to result in approximation strategies and implementation plans for the three sectors under the competence of MEPPPC — waste management, air quality, and industrial pollution management (IPPC) — while ongoing efforts for aligning water sector legislation will be supported by another CARDS-funded project focusing on urban wastewater treatment, another major issue. The National Waste Management Strategy was adopted by the Parliament in October 2005, and several foreign assistance projects are already ongoing within the framework of implementing the strategy's main principle, that of taking the regional approach to waste management, as opposed to the individual landfills used in the past.

National Funds and Economic Instruments for the Environment

The Fund for Environmental Protection and Energy Efficiency is mandated to ensure additional resources for financing preparation, implementation and development of programmes, projects and similar activities in the sector for the preservation, sustainable use, protection and improvement of the environment, and to participate in funding of national energy programmes, with a goal of achieving energy efficiency and use of renewable energy resources. The fund is an extra-budgetary legal entity, vested with public authority. Fund revenues come from environmental fees recently introduced on the basis of the Fund for Environmental Protection and Energy Efficiency Act.

At the moment, fees contributing to fund revenues include charges for environmental emissions of sulphur dioxide (SO_2) and nitrogen oxide (NO_2), calculated and paid according to volumes produced by legal and natural persons through business activities, on calendar yearly basis; for non-hazardous industrial waste, according to volume deposited on disposal sites; for hazardous waste; and for motor vehicles, paid upon annual registration and technical certification of vehicles. According to the act, a further charge for CO_2 emissions and the environment user charge are also planned to be introduced.

As of January 2006, the fund has been engaged in a packaging waste collection scheme financed by revenues from charges paid to the fund. According to the Ordinance of Packaging and Packaging Waste, these fees include:

- disposal fees determined by packing material and product unit;
- returnable fees for one-time use packaging of drinks and beverages; and
- stimulative fees for packaging of drinks and beverages to encourage multiple use and/or returnable packaging.

According to the Regulation on Substances that Deplete the Ozone Layer, an additional charge on import of those substances was introduced in 2006. This charge is also revenue for the fund, and is earmarked for the disposal/destruction of waste-controlled and alternative substances.

In 2004 and 2005, fund allocations approved by the parliament for programmes of environmental protection and energy efficiency totalled approximately EUR 35 million per year. The allocations were primarily focused on the remediation of municipal landfills. The fund provides support in the form of lower-interest loans, grants and subsidies through public tendering procedures. The fund is primarily responsible to the Ministry of Environmental Protection, Physical Planning and Construction and to the Ministry of Economy, Labour and Entrepreneurship.

Water supply and water protection programmes are funded through Croatian Waters, the public water management agency. The allocation approved by the parliament for 2004 was EUR 76.7 million, and for 2005 almost EUR 105 million.

The new Air Protection Act of 2004 anticipates that economic instruments will be used in financing air emissions reductions. A special regulation or governmental measure may be adopted to provide tax exemptions for investment in purification equipment, in plants which implement technology, in raw materials and manufacturing processes more favorably affecting air quality than other similar manufacturing processes and technologies, and in use of renewable energy sources.

The state budget funds are allocated for environmental programmes and activities through budgets of line ministries and state institutions. In 2004, budgetary spending for environment amounted to EUR 51 million EUR, or 0.46 percent of the total state budget. In 2005, EUR 56 million, or 0.47 percent, was allocated.

Other regular allocations exist for less developed local and regional governments in the form of central government support for financing development programmes and capital expenditures, including environmental protection expenditures. A portion of this support is administered through the Regional Development Fund according to priorities formulated through investment projects within county operational programmes, while environment-related investments cover mainly municipal infrastructure, i.e. wastewater treatment, water supply, and waste management. Counties and local governments also have their own revenues, which are partly used to finance environmental activities and programmes.

Environment-related revenue sources contributing to the state budget and local/regional budgets include:

- excise taxes on products that have an environmental impact, e.g. tobacco products, oil derivatives, motor vehicles, vessels, and aircraft;
- administrative fees for state-, locally- and or regionally-issued permits, depending on the type of permit, e.g. waste and protected spices;
- fines for non-compliance with waste management legislation paid to the town or municipality;
- fines for non-compliance with air protection legislation, nature conservation, noise reduction, etc.; and
- others.

Charges for use of natural resources are collected through fee levying such as:

- water protection charges, paid on the basis of discharged water quantity and its impact on water quality and possible use, are paid to Croatian Waters with the amount invested in full in water quality control; and
- fees for multiple non-wood forest functions paid to Croatian Forests, municipal charges such as water supply charge, wastewater collection and treatment charges, waste collection, transport and disposal charges, tourist fees, concession charges (e.g. for marine resources exploitation, water and public water domains), fishing fees, charges for the exploitation of raw minerals, and others.

National financing of environmental protection was low in the past period. Available funds and incentives from public revenue have been insufficient for environmental investments. Significant improvement has been seen with the introduction of new environmental charges based in the Law on Environmental Protection and Energy Efficiency Fund of 2003 and the aforementioned fund activities, which include subsidised interest rates on loans offered by Croatian development and commercial banks. The subsidies have recently increased bank financing of environmental projects.

EU-Croatia Relations: The Stabilisation and Association Process

The Stabilisation and Association Agreement (SAA) with Croatia was signed on October 29, 2001, and entered into force February 1, 2005. Croatia applied for EU membership in February 2003. In April 2004, the European Commission issued a positive opinion on the application and recommended opening accession negotiations. The recommendation was endorsed by the June 2004 European Council, with formal negotiations beginning in October 2005. The first step is the screening process, in which Croatian legislation is compared in detail with EU legislation. This began in October 2005 and examination of environment was foreseen for April 2006.

The Accession Partnership[2]

The European Council endorsed the introduction of partnerships to place the European perspective of Western Balkan countries within the framework of the Stabilisation and Association Process (SAP).

A European Partnership with Croatia was adopted by the Council on September 13, 2004. On October 3, 2005, the member states started EU accession negotiations with Croatia. An Accession Partnership was adopted, updating the previous partnership on the basis of findings in the 2005 Commission's Progress Report on Croatia. This new Accession Partnership identifies new priorities for action adapted to the country's specific needs and stage of preparation, provides guidance for financial assistance and will be updated as necessary. Croatia is expected to develop a plan, including a timetable and specific measures, to address Accession Partnership priorities.

ENVIRONMENTAL PRIORITIES IN THE 2005 EUROPEAN PARTNERSHIP

Short-term priorities

- To continue to develop horizontal legislation, including on environmental impact assessment and public participation;
- To clearly define responsibilities and strengthen the administrative and operational capacity at national and regional levels to ensure planning, including preparation of financial strategies;
- To continue to strengthen the capacity of national and regional inspection services to effectively enforce environmental legislation;
- To urgently adopt and implement a national waste management plan.

Medium-term priorities

- To ensure the integration of environmental protection requirements into the definition and implementation of other sectoral policies;
- To develop an environmental investment strategy based on estimates of alignment costs;
- To continue to implement horizontal legislation;
- To continue work on the transposition of the EU acquis, with particular emphasis on waste management, water quality, air quality, nature protection and integrated pollution prevention and control;
- To increase investments in environmental infrastructure, with particular emphasis on wastewater collection and treatment, drinking-water supply, and waste management;
- To ratify the Kyoto Protocol to the United Nations Framework Convention on Climate Change.

EU Assistance

In 2001-2004, the European Commission supported reforms in Croatia through its CARDS assistance programme. For the environmental sector, the total financial allocation for the period amounted to EUR 10.5 million. The support was directed to legislation, waste, water, NGOs, environmental impact assessment, renewable energy sources, and other environment related activities. CARDS has been financing a number of strategies through several projects: Strategy for EU Environmental Law Approximation, National Waste Management Strategy Framework — Focus on Municipal Waste, Capacity Strengthening Measures for the Environment Agency, Approximation of Water Management Legislation with EU Water Acquis, and others. Croatia also receives funds from the CARDS regional programme, which finances the collaboration of SEE countries with the European Environment Agency and Regional Environmental Reconstruction Programme activities, among others.

Since becoming a candidate country in 2004, Croatia has stood to benefit from all three pre-accession financial instruments: Phare for institution-building and economic and social cohesion, ISPA for environment and transport infrastructures, and SAPARD for agricultural and rural development. Croatia also remains eligible for the CARDS Regional Programme in 2005 and 2006. Pre-accession financing will amount to EUR 105 million in 2005 (EUR 80 million from Phare; EUR 25 million from ISPA) and EUR 140 million in 2006 (EUR 80 million from Phare; EUR 35 million from ISPA; EUR 25 million from SAPARD). The Memorandum of Understanding on the Establishment of the National Fund, which provides a legal basis for the introduction of a decentralised implementation system for EU pre-accession assistance, was signed in May 2005. Croatia has used its experience in implementing CARDS to adapt and extend the current CARDS mechanism in order to implement PHARE. Since the beginning of 2004, the TAIEX assistance instrument is also available to Croatia.

Relations with International Financial Institutions[3]

The World Bank has supported preparation of the National Environmental Action Plan, as well as activities related to wetland protection; forest protection; biodiversity conservation in karst landscapes; wastewater treatment in eastern Slavonia and Adriatic coastal cities; and energy efficiency and renewable energy investments. The future programme will support EU accession focused on implementing the environment acquis, absorption of EU funds, and planning for investment-heavy environmental directives. Support programmes will include waste management, implementation of the Nitrates Directive and agri-environment measures of rural development. In addition to financial assistance, the World Bank has provided for several analytical and policy studies through its agencies.

Croatia has been a member of the European Bank for Reconstruction and Development (EBRD) since March 1993. The City of Zagreb Solid Waste Management Programme started in 1998 as a loan to the city-owned company ZGOS, with the City of Zagreb guaranteeing to rehabilitate the landfill to protect nearby

water resources and reduce the pollution of air, soil and river. Following successful implementation, the programme was refinanced in 2003, and the EBRD is currently assisting the city and ZGOS to structure and prepare the Solid Waste Incinerator project for financing under the Design-Build-Operate (DBO) model. As stated in its strategy for Croatia (approved in March 2005) the EBRD will work with large and medium-sized municipalities to develop their infrastructure projects for prospective ISPA co-financing. In addition, the EBRD will continue to reach small municipalities through local banks, promoting investment in environmental infrastructure with donor support from the EU and the Netherlands. The EBRD will continue to support national infrastructure projects in the transport sector in particular. Infrastructure sector financing will be closely coordinated with Croatian authorities and other IFIs, in particular the European Investment Bank and the EU, leading to joint financing arrangements and mobilisation of ISPA/IPA funds where possible.

REReP Priority Areas

State of Legal, Policy and Institutional Framework

The 1994 Environmental Protection Act amended in 1999 provides the legal framework for environmental protection. It is a framework regulation for strategic documents such as national strategy, programmes and reports on the state of the environment. This act also relates to future regulations that would create a legislative base for increased public involvement in environmental affairs. The environmental sector was included in the national programme for EU integration for the first time in 2004. The new Environmental Protection Act in line with the acquis communitaire is expected to be adopted in 2006.

Different instruments for environmental protection are in place: environmental impact assessment (EIA), environmental protection standards, environmental state monitoring, the Environmental Pollution Cadastre, the Environmental Protection Information System, provisions on liability for environmental pollution, environmental protection intervention plans, and environmental inspection of Environmental Protection Act implementation. Various legal provisions exist to ensure public access to environmental information, although the existing Environmental Protection Act is not yet fully in line with the Aarhus Convention, which Croatia has signed, but not yet ratified. Regulations on environmental impact assessment (EIA) contain provisions on public participation.

Overall, Croatia will have to make further considerable and sustained efforts to align its legislation with the environmental acquis and to effectively implement and enforce it. Effective compliance with a number of pieces of community legislation requiring a high level of sustained investment and considerable administrative effort (e.g. waste management, wastewater treatment and water supply) can be achieved only in the long term and will require a significant increase in environmental investments. The basic legislative framework to enable Croatia to pursue the alignment with the acquis is in place. At present, various strategies and action plans give prominence to environmental protection, such as the following.

The Strategy and Action Plan for the Protection of Biological and Landscape Diversity of Croatia (NSAP) adopted in 1999 is the first document in which protection of nature is planned in an integrated and systematic manner. It was developed to promote nature protection as an integrated activity based on species, habitat and protected area conservation. NSAP also aims to ensure rational and sustainable use of natural resources by all users, with the focus on decentralisation of implementation efforts, from the traditional single-authority approach to the involvement of other actors in monitoring and inventorying activities, especially NGOs and the scientific community.

The 2002 National Environmental Strategy and National Environmental Action Plan (NEAP) outlines the integration of environmental concerns into other sectors as a main principle of action toward sustainable development. One priority is the task of analysing and harmonising Croatian legislation with the acquis, with general cost estimates. The development of NEAP has, to the highest extent possible, followed the main elements of the 5th and 6th EU Action Programmes, and as such represents one of the first sectoral documents in Croatia within the framework of EU approximation.

In order to systematically promote and increase energy efficiency in the country, the Croatian Government initiated the Croatian Energy Sector Development Strategy (2002) and the PROHES project, Development and Organisation of the Energy Sector. The strategy promotes incorporation of the sustainable development concept in all measures, use of renewable energy resources and support for research, development and demonstration of new clean and efficient technologies. However, Croatia still lacks both the capacity and financial resources to actively implement these initiatives in practice.

In 2002, the Croatian Parliament also adopted the National Strategy on Agriculture and Fisheries, which supports fair competition in the agricultural sector, with focus on sustainable rural development. The aim of the strategy is preservation of the rural sector, and

support for research in green agricultural techniques promoting sustainable organic farming. The benefits of this approach are contributing to the creation of original Croatian products and brands; protection and conservation of natural resources; and ensuring healthier, safer foodstuffs.

The Waste Management Strategy of the Republic of Croatia anticipates a system of regional waste management centres and transfer stations, which would significantly reduce the number of uncontrolled landfills, and especially minimise the waste pressure on islands.

The Ministry of Environmental Protection and Physical Planning was established in 2000 as a central body of state administration. Under the new government's recent reorganisation in January 2004, it has become the Ministry of Environmental Protection, Physical Planning and Construction (MEPPPC). The MEPPPC has responsibility for many different aspects of environmental protection, although other ministries such as the Ministry of Culture (in the Directorate for Nature Protection), and the Ministry of Agriculture, Forestry and Water Management (MAFWM) also have important roles. In 2002, two new institutions were established: the Environment Agency and the State Institute for Nature Protection. Within MEPPPC, the key unit responsible for environmental issues is the Directorate for Environmental Protection, which details administrative tasks relating to general environmental protection policies in achieving conditions for sustainable development, protection of air, soil and sea, and waste management.

Other organisational units dealing with environmental issues are the Directorate for Strategic and Integration Processes in Environmental Protection, the Directorate for Inspection, the Directorate for Housing, Municipal Economy and Construction, and the Directorate for Physical Planning. The Directorate for Inspection is organised in 20 office branches in county seats under the head office in Zagreb, and almost half of the approximately 500 ministry staff are assigned to this directorate.

The Ministry of Culture has prime responsibility for nature protection through its Directorate of Nature Protection, with departments concerning sustainable use of natural resources, biodiversity and landscape inspection. The MAFWM manages most issues relating to water management (excepting drinking and bathing waters) through its Directorate for Water Management. Other ministries competent in environmental protection are the Ministry of Health and Social Welfare, the Ministry of Sea, Tourism, Transport and Development, and the Ministry of Economy, Labour and Entrepreneurships.

Local government has a limited but important role in environmental protection. This role includes municipal waste management, a number of aspects of water management, and air quality monitoring. Insufficient administrative capacity at local levels affects their ability to work closely with national institutions. Funds have been secured for technical assistance in institutional strengthening at the local level within EU's CARDS and Phare programmes. The environmental inspectorate will be supported through the 2005 Phare project Enhanced Environmental Inspection for Enforcement of New Environmental Legislation.

State of Environmental Civil Society

According to Croatian legislation, the 2001 Law on Associations, the terms "association" and "civil society organisation" encompass a range of non-profit organisations along the lines of NGOs, foundations and private institutions, and do not include political parties, religious communities or syndicates.

Public interest and citizen involvement concerning environmental issues in Croatia have increased since the late 1980s. Environmental NGOs typically identify problems, research needs, seek solutions on both local and global levels, and motivate citizens to get involved. More than 270 environmental groups are now registered in Croatia, although a much lower number is actually active; the majority is concentrated in large towns with around 40 percent in Zagreb, and most newer groups (30 percent) are located in smaller towns and villages. NGOs are active in around 100 different locations throughout Croatia. In Zagreb and other major towns, several advanced groups operate, and approximately 20 organisations act as professional NGOs dealing mainly with pollution-related issues. The Green Platform represents the reorganisation of 33 NGOs into a single national NGO network, which enables the organisation of joint campaigns and distribution of responsibilities to the relevant national, regional or local organisation. A steering group of seven is established, with one NGO hosting the secretariat.

According to certain extant regulations, e.g. the EIA Rulebook and the Physical Planning Act, the public is involved in some decision-making processes such as physical plan development or evaluation of environmental impacts at the project level.

Financial support to NGOs is institutionalised in Croatia. On an annual basis, the MEPPPC announces tenders with the purpose of supporting NGO projects and programmes. In 2005, HRK 2,000,000 (EUR 270,000) in support was awarded to NGOs by the MEPPPC through the tendering procedure.

The overall weakness of Croatia's environmental movement in the civil sector is reflected in organisational problems such as lack of cooperation and networking within the movement; lack of knowledge of legal and administrative issues needed to communicate

with government stakeholders; weak institutional capacity for project development and implementation; low absorption capacity; underdeveloped fund-raising skills; insufficient environmental training; and lack of volunteer support. Environmental NGOs, which account for less than 1 percent of all civil society organisations in the country, require both institutional and financial support to implement local environmental projects, thus raising the awareness of the general public as well as influencing environmental policy-making through public participation.

State of Regional and Cross-Border Cooperation

Croatia is an active member of several regional and sub-regional initiatives.

In December 2002, Croatia signed the Sava River Basin Framework Agreement with Slovenia, Bosnia and Herzegovina, and Serbia and Montenegro. In February 2003, Croatia signed the Memorandum of Understanding on the Regional Electricity Market in South East Europe (REM), and its addendum in December 2003.

Croatia signed an environmental agreement with Bosnia and Herzegovina on water management relations in 1996.

Relations with the former Yugoslav Republic of Macedonia are generally good, and there are no open issues. The countries have signed 24 bilateral agreements. Croatia has signed a general agreement with the former Yugoslav Republic of Macedonia on environmental protection.

In the field of environment, Croatia has signed an agreement with Slovenia on water management relations in 1996 and both are parties, together with Italy, to the Agreement on Protection of the Adriatic Sea and Coastal Area from Pollution (as successor states of the Socialist Federal Republic of Yugoslavia). In this framework, the mixed Croatian-Italian-Slovenian Commission for the Protection of the Adriatic Sea and Coastal Areas is active.

Cooperation with Hungary is strong through the current Programme on Developing Ecological Structural Measures in the Drava River Basin funded through the INTERREG III B CADSES instrument. Hungary and Croatia also signed an agreement on water management in 1994.

Croatia and Albania have good political relations, with 23 bilateral agreements signed, including a general agreement on environmental protection.

Bilateral relations with Italy, its largest trade partner and an important investor, are extensive and of particular importance for Croatia. The most successful form of collaboration between the two would therefore be an exchange of knowledge on environmentally friendly industrial technologies and energy efficiency, by means of fairs and exhibitions. As party to the Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and its Protocols, Croatia has actively participated in activities of UNEP/MAP regional activity centres. Within the framework of the Trilateral Croatian-Italian-Slovenian Commission for the Protection of the Adriatic Sea, a trilateral Agreement on the Contingency Plan for the Adriatic was signed in 2005.

State of Environmental Health Threats and Loss of Biodiversity

Urban air quality poses a major human health threat, as do the emissions of gases and waste disposal site pollution of water and soil. Lead inhalation and pollution of agricultural soil caused by traffic emissions is another threat but has been decreasing since 1990, due to increased use of unleaded petrol in motor vehicles. Starting with 2006, leaded petrol will be prohibited on the domestic market, and lead emissions from road traffic are expected to decrease to minimal levels.

According to analyses made in the preparations for EU accession, the health benefits to be received from implementing EU Air Quality Directives cover a broad range, including decrease of bronchitis, tightness in the chest, and wheezing in the short term. Many chronic effects such as lung cancer and cardiopulmonary diseases may decline. Benefits in Croatia include improvement of human health in presently polluted areas such as Zagreb, Split, Sisak, Kutina and Rijeka. Sulphur dioxide along with nitrogen oxides are the main precursors of acid rain, which has been known to cause severe damage to crops, forests, lakes and streams worldwide. Reduction of pollution from these substances will reduce the amount of acid rain. Croatia is predominantly an importer of SO_X and NO_X. The trend of transboundary pollution by sulphur compounds has been decreasing, whereas the trend with regard to nitrogen oxides has increased slightly. By measuring the chemical composition of precipitation, shares of long-range pollution by sulphur oxides of about 80 percent, nitrogen oxides of about 70 percent, and ammonia of about 50 percent have been established.

Although important and attractive as a resource, marine and coastal areas are facing permanent degradation caused by land-based and marine pollution, loss of coastal habitats due to urbanisation, and inadequate fishing management. Lack of overall environmental awareness is still an important factor behind significant illegal use and overexploitation of natural resources. Due to decreased agricultural land area, the level of pollution from agricultural production is moderate. Similarly, the low rate of livestock production currently

does not pose a particular environmental threat. Certain types of fishing gear are causing particular damage to marine biodiversity. Forests, which are almost exclusively managed by state-owned public company Hrvatske sume are an important economic resource and a major factor in environmental quality. The most serious causes of forest damage are acid rain (predominately caused by "imported" transboundary pollution), forest fires, and soil erosion.

According to the Red Data Books of Croatia, prepared until 2005 for 10 analysed groups of taxa, 395 of the 1,171 species covered (including 94 stenoendemics) are endangered, while others belong to lower-risk categories or are inadequately known or explored. Due to the loss of their natural habitats by extensive building, land reclamation for agriculture or construction purposes, or due to climate change, six species of freshwater fish, four mammal species, 10 species of vascular plants, 13 bird species and one reptile are thought to be extinct in Croatia.

Compared to other European countries, Croatia still has the highest biodiversity index, which needs to be preserved through appropriate measures. The National Biodiversity and Landscape Strategy, adopted by the Croatian parliament in 1999, contains several sets of action plans and emergency conservation measures for particular taxa and habitats. Within this framework, the national action plans for the conservation of three highly endangered large predator species — wolf, brown bear and lynx — are being developed or implemented. The recently finalised three-year action programme Conservation and Management of Wolves in Croatia has established the mechanism for long-term conservation of wolves and their harmonious co-existence with humans. Project activities included institutional strengthening, wolf population monitoring and management, damage reduction, education and information, and encouraging participation of interest groups in decision making.

ENDNOTES

1 Ministry of Agriculture, Forrestry and Water Management.

2 EC, *Proposal for a Council Decision on the Principles, Priorities, and Conditions contained in the Accession Partnership with Croatia* [SEC (2005) 1424].

3 EC Directorate-General for Economic and Financial Affairs, *The Western Balkans in Transition.*

REFERENCES

CIA. "Croatia" in *The World Factbook*..

Croatia State Institute for Nature Protection. *Red Data Book of Endangered Plants and Animals of Croatia,* 2004.

Croatian State Institute for Nature Protection <www.dzzp.hr>.

Croatian Environment Agency <www.azo.hr>.

EC. *Croatia 2005 Progress Report.* COM (2005) 561 final. Brussels, November 9, 2005.

EC. *Implementation and Enforcement Capacities in Croatia for the Environmental Acquis.* COM (2005) 556. Brussels, November 9, 2005.

EC Directorate-General for Economic and Financial Affairs. *The Western Balkans in Transition.*

The NBSAP. *State Directorate for the Protection of Nature and Environment, 1999-2000.*

REC Croatia. *Strategic Environmental Analysis of Croatia.*

World Bank. *The Little Green Data Book, 2004.*

The Ministry of Agriculture, *Forestry and Water Management of Croatia*

The Ministry of Culture, Nature Protection Division, of Croatia

The Ministry of Environmental Protection, Physical Planning and Construction of Croatia.

National authorities, IMF, EC estimates: (1) Before grants. (2) After grants. (3) Net. EHP.

Environmental Profile: **former Yugoslav Republic of Macedonia**

LOCATION

South Eastern Europe, north of Greece

AREA

Total surface area:	2,713 sq km
Plain terrains:	4,900 sq km
Water surfaces:	488 sq km
Reddish and mountain terrains:	20,325 sq km

LAND BOUNDARIES

Total:	850 km

Borders: Albania (191 km), Bulgaria (165 km), Greece (262 km), Serbia and Montenegro (232 km)

CLIMATE

Warm, dry summers and autumns; relatively cold winters with heavy snowfall

ELEVATION EXTREMES

Lowest point:	Vardar River — 50 m
Highest point:	Golem Korab — 2,764 m

NATURAL RESOURCES

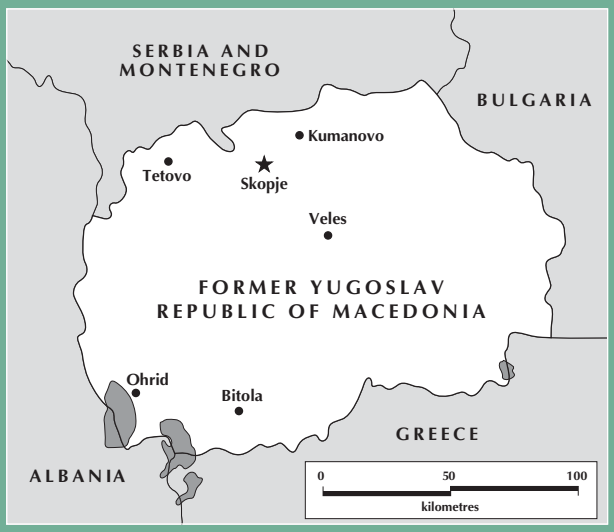
Arable land, asbestos, chromite, copper, gold, gypsum, low-grade iron ore, lead, manganese, nickel, silver, timber, tungsten, zinc

NATURAL HAZARDS

Considerable seismic activity

CURRENT ENVIRONMENTAL ISSUES

Air pollution



MAIN ECONOMIC TRENDS

	2002	2003	2004	2005 (projected)
Growth in GDP (real change, in percent)	0.9	2.8	2.9	3.5
Inflation (change in consumer price index, in percent)	2.4	1.1	0.3	0.0
Foreign direct investment (in million USD)	77	97	150	150
Unemployment rate	31.9	36.7	37.2	n.a

Environmental Profile: **former Yugoslav Republic of Macedonia**

Introduction

The former Yugoslav Republic of Macedonia is a small country located in the centre of the Balkan Peninsula. It has a population of 2,071,210 (based on figures from 2004) and a territory of 25,713 square kilometres. Of this, approximately 49 percent is agricultural land, 9 percent irrigated land, 37 percent forest, 2 percent lakes and 3 percent urban or industrial land.[1] The former Yugoslav Republic of Macedonia is a country without coastline, though it is rich in water resources, most notably the major lakes Ohrid, Prespa and Dorjan. After becoming an independent state in 1991 with the break-up of the Socialist Federal Republic of Yugoslavia, the country began a period of social and economic reform, which involved restructuring government, privatising large-scale public enterprises, and rewriting macroeconomic policies.

On the national level, the Ministry of Environment and Physical Planning (MEPP) holds the legal obligation to create and implement environmental policy in the former Yugoslav Republic of Macedonia, to lead the activities in the area of the environment, and to provide for rational use of space and natural resources. Bodies within the MEPP include the State Environment Inspectorate, the Service for Spatial Information Systems, and the Office for Environment. Within the office for environment operates the environmental laboratory which carries out measurements and expert analyses of pollution. According to the Law on Environment, the office will be transformed into the Administration of Environment, becoming a body within the MEPP with additional administrative activities under its competence.

Apart from the MEPP, which has the leading role in the field of environment, other ministries also hold direct or indirect competences in the domain of environmental management including the Ministry of Defence; the Ministry of the Interior; the Ministry of Economy; the Ministry of Agriculture, Forestry and Water Economy; the Ministry of Health; and the Ministry of Transport and Communications. Local self-government units are responsible for regulating and performing activities of public interest and local importance, especially in the domains of waste management, integrated environmental permitting, compliance permitting, and inspection supervision.

The former Yugoslav Republic of Macedonia lists regional cooperation as one of the main pillars in its international political activity. The country is a member of the South Eastern Europe Cooperation Process (SEECP); Central European Initiative (CEI); Stability Pact (SP); South-Eastern Cooperative Initiative (SECI); and the Athens and Segedin processes.

Apart from the Regional Environmental Reconstruction Programme, the country participates in several regional activities and projects in the field of environment such as: the Initiative for Development of an Indicative Map under the Pan-European Environmental Network, coordinated by the European Centre for Nature Conservation (ECNC); a regional initiative aimed at the establishment of the Emerald Network of Areas of Special Conservation Interest (ASCI); and a regional project Capacity Building for Improving the Quality of Data Input to National Greenhouse Gas Inventories. The MEPP attaches high importance to the development of bilateral cooperation, including cooperation with regard to the protection, promotion and sustainable development of three natural lakes and border massifs belonging to the former Yugoslav Republic of Macedonia and its neighbours.

Current Environmental Conditions

Soil, Forests, Agricultural Land

Mountain soil predominates in the former Yugoslav Republic of Macedonia, accounting for 1,655,227 hectares, or approximately 64.4 percent, of all land; soil in the valleys accounts for 916,073 hectares, or 36 percent. Approximately 665,000 hectares are arable land, with approximately 390,000 hectares lowland pastures or land put to non-agricultural use.

The production of food based upon soil use depends on the very quality of the soil itself and the extent to which it is polluted. Dominant causes of disturbance and endangering of soil quality in the former Yugoslav Republic of Macedonia include polluted

wastewater, air particles, surface coal and mineral raw material excavation, erosion, improper use of chemicals in agriculture, roads, landfills, urban and rural settlements, livestock farms with inadequately built supplementary facilities, weekend cottage settlements, and infrastructure.

Roughly half the territory of the state belongs to the farming sector, for a total of 1,291,251 hectares. Since the 1960s, 18.6 percent of farming stock has been lost, which amounts to an annual permanent loss of 0.5 percent of farming soil. The abandonment of arable soil within rural areas as a result of population migrations, changes in soil use, and non-farming use of high-quality farming soil have all contributed to a significant environmental disturbance.

A full decade before the former Yugoslav Republic of Macedonia acquired its independence, its agriculture was marked by a constant moderate increase and a virtually unvarying 14-16 percent share in the GDP. According to the 1994 census, the agricultural-based population of 226,498 accounted for 11.79 percent of the total population.

The agricultural sector in the former Yugoslav Republic of Macedonia today impacts the water resources of the country through 106 different irrigation schemes, which have a capacity to serve 124,000 hectares. However, due to system inefficiency, not more than 80,000 hectares are successfully irrigated. The irrigation systems consist of 17 high dams with a total reservoir capacity exceeding 500 million cubic metres of water and 8,110 kilometres of pipes and canals. It is estimated that 550 square kilometres of land are irrigated.

Most of the irrigation systems, including those of Tikvesh, Bregalnica, Strumica and Lipkovo, which together account for more than 50 percent of all irrigated land, are more than 15 years old. Limited analysis has been performed on pollution from agricultural sources, and its effects on water basins are not clearly known. Levels of pesticide and fertiliser use have declined since 1990, and it is expected that this drop will in turn reduce the pollution load to the groundwater. The Kozjak dam finished in 2004 will add to the irrigation system.

Water

The former Yugoslav Republic of Macedonia contains a considerable amount of water resources, both underground and surface. Surface water resources are the most important source for meeting water demand.

Due to the morphological, hydro-geological and hydro-geographical structure of the relief, run-off quickly runs into the hydrographic network, i.e. rivers, streams and lakes, subsequently flowing out of the country. The only exceptions are the karstic areas, where water is retained in the ground for a longer period and recharges the river network.

According to the hydrographic division, there are four river basin districts: the Vardar, Crn Drim, Strumica and Juzna Morava. The Vardar River Basin District (Aegean watershed) is the largest, containing 80 percent of the water flow leaving the country. Of the remaining 20 percent, 13 percent flows through the Crni Drim River Basin District (Adriatic watershed), with only seven percent through the Strumica River Basin District, a tributary of the Bulgarian Struma River (Aegean watershed). The Juzna Morava Basin District (Black Sea) covers only 44 square kilometers.

The former Yugoslav Republic of Macedonia is classified as semi-arid region (Ovce Pole is the driest area in the central Balkan Peninsula), making the use, protection, conservation and development of water resources of significant importance.

The Ministry of Transport and Communications manages primary infrastructure, i.e. drinking water and wastewater infrastructure, as secondary infrastructure, operational adjustments are managed by municipal enterprises. As user charges are low and often uncollected, enterprises are unable to maintain adequate technical standards. Municipalities are also in charge of disinfecting drinking water. Sewage systems are used for collecting and disposing of urban wastewater and precipitation water from urban areas. Generally, existing sewage systems in major urban areas are designed to collect and convey both wastewater and precipitated water. Only 12 cities have constructed separate sewage systems. The city of Skopje has constructed a separate system for wastewater (56 percent) and for precipitated water (18 percent). Usually, collectors of precipitated water discharge water into the closest recipient, while wastewater is discharged downstream from urban areas.

A collection network of 280.6 kilometers and sewage network of 1,239.1 kilometres run on the national level. Sewage systems are local systems in each urban area. Beside these local systems are three larger or regional sewage systems protecting lakes Ohrid, Prespa and Dojran. Besides those protecting these lakes, there are also treatment plants in Sv. Nikole and Makedonski Brod. Unfortunately, only the plants in Vranista, Struga and Makedonski Brod are in operation. The wastewater treatment plant in Vranista has facilities for mechanical, biological and chemical treatment. The purification rate of the treated wastewater satisfies environmental requirements and is discharged into the Crn Drim River. Recently, treatment plants in Sv. Nikole, Dojran and in Ezerani, Prespa, have been reconstructed, but their operation does not fully satisfy environmental standards.

According to data from the Republic Health Institute, drinking-water quality is high in public supply systems, and the water is safe. Public water supply utilities also have individual laboratories for controlling drinking water quality.

The former Yugoslav Republic of Macedonia is rich in mineral, thermal and thermo-mineral water. Mineral and thermo-mineral water are renewable resources. The main geothermal zones are in the areas of Volkovo-Skopje-Katlanovo, Kumanovo-Kratovo, Isti Banja-Kocani-Stip, Strumica, Smokvica-Negorci-Gevgelija and Kosovrasti-Debar-Baniste.

Air

The main sources of air pollution in the former Yugoslav Republic of Macedonia are mobile sources (i.e. traffic), and stationary sources (i.e. industry, energy production, central heating and residential heating). Air-quality problems are particularly pronounced in the areas of major cities, thus potentially affecting 60 percent of the population. In the period 1990 to 1995, air emissions decreased by 50 percent due to the overall recession and decline in industrial production following the political changes. Since then, however, the trend is slowly reversing with modest but steady, increases in the level of industrial activity.

Almost two-thirds of annual sulphur dioxide (SO_2) emission derives from the combustion and transformation of energy whereas energy production and mobile sources are the major sources of emissions of nitrogen oxides (NO_X). The single most important contributor to dust emissions are industrial production processes, while road traffic is the major source of carbon monoxide (CO) emission.

As a result of obsolete equipment and lack of modern technologies, the industrial sector is a major air polluter, with activity in the metallurgy sector,[2] and the chemical industry.[3] Energy production from thermal power plants (REK Bitola covers approximately 75 percent of the nationwide electricity demand) and district heating facilities are other sectors whose activities severely affect air quality. Emission levels from mobile sources depend on the level of activity, quality of fuel used as well as age of the vehicle fleet. Persistent organic pollutant (POP) emission derives mainly from polychlorinated dibenzo-p-dioxins (PCDDs)[4] and polychlorinated dibenzo-p-furans (PCDFs). Annual POPs emission (from a recommendation by UNEP) amount to 166 g TEQ/a.[5] The energy sector is the most significant source of greenhouse gas emissions. Ozone-depleting substances (ODS) have been reduced by 90 percent from the period 1995-2000, a result of the national action to phase out ODS.

Biodiversity

The former Yugoslav Republic of Macedonia has rich and varied biological diversity, due to its diverse relief, varying climatic influences (Mediterranean, continental, mountain), diverse soil types and geologic bedrock. The abudance and heterogeneity of species and ecosystems appear to be basic characteristics of the country's biodiversity, which includes more than 18,000 taxa of flora, fauna and fungi, of which over 900 are endemic. The former Yugoslav Republic of Macedonia contains a large number of threatened ecosystems and habitats on a European scale[6] and a number of endemic plant species, some very rare, including *Astragalus cerjavski* and *Tulipa marianae; Salvia jurisicii; Ferulago macedonica;* and *Sambucus deborensis*.

Despite the fact that the diversity of flora and fauna has not been fully studied, findings to date indicate huge wealth. As an example, the diversity of invertebrate species on a relatively limited surface at some sites (Ohrid Lake, marsh ecosystems and others) can be compared to the diversity of coral reefs.

According to the national Biodiversity Strategy and Action Plan adopted in 2004, several main threats to biodiversity exist, including habitat loss, land-use modification and habitat fragmentation. The main sectors affecting biodiversity in the country are agriculture, fishing, traffic and road infrastructure, and energy production.

Because the country has no national "red list" of fauna, the numbers of threatened species listed are in accordance with the European Red List of Vertebrates. According to this list, birds have the highest number of threatened species (66), followed by fish (30), mammals (16) and reptiles (one). At 51.7 percent of the total recorded species at risk, the most threatened group of organisms in the former Yugoslav Republic of Macedonia is fish. In this group, Salmo lumi is considered extinct, whereas populations of carp (Cyprinus carpio) are at a level of critical endangerment.

Major portions of the endemic invertebrate fauna in the former Yugoslav Republic of Macedonia are intrinsically linked to aquatic ecosystems. The threats to this fauna result from the decline in water levels of certain lakes, eutrophication of these lakes, and the pollution of riverine ecosystems.

About 6.6 percent of state land is under some form of protection through the Law on Natural Rarities Preservation. Protected lands include three national parks with an area of 108,388 hectares, three areas with special characteristics that cover 2,338 hectares, 14 special plant and animal reserves that cover 2,647 hectares, and 47 natural monuments covering 58,084 hectares. All three national parks, Pelister (12,500 hectares), Galicica (22,750 hectares) and Mavrovo (73,088 hectares), are in forested areas. The Law on Nature Protection stipulates a transitional period of

three years after its entry into force when re-evaluation of protected areas designated prior to its adoption will be completed, and new legal acts for their proclamation will be adopted in line with the new law, thus rounding off the system of protected areas.

National Environmental Priorities

The following overall national priority objectives are identified in the second National Environmental Action Plan (tentative date for adoption March 2006):

- to continue the process of approximation of the environmental policies of the European Union, framework legislation and directive-specific requirements;
- to provide for integration of environmental policies into other sectoral policies;
- to provide for administrative structures needed to ensure efficient environmental management;
- to ensure efficient implementation and enforcement of environmental requirements;
- to encourage a greater sense of environmental responsibility in industry, with environmental service providers and other actors in the field of environment;
- to pave the way for an environmentally sustainable approach which integrates environmental considerations into the activities of various economic sectors while simultaneously paying attention to social needs and economic growth;
- to solve important national environmental problems not addressed or covered through the efforts of EU approximation nor through any other international effort; and
- to improve the level of compliance with obligations under regional and global environmental agreements to which the former Yugoslav Republic of Macedonia is party, also implying the country's active involvement in international systems for environment.

National Funds and Economic Instruments for Environment

Environmental improvement and protection activities have thus far been financed from various sources, including the Environment Fund, the federal budget, donations and loans. The most important activities that have been financed concern the protection of lakes Dojran, Ohrid and Prespa; the construction of water supply systems; development of a sanitary landfill for Skopje; and preparation of local action plans. Some key problems that need the largest investments, however, have not been solved.

In 2002-2004, the financial resources of the environment fund and MEPP budget have mainly been invested in water, air, waste and biological diversity, with public education and awareness raising also supported.

Over the course of these three years, the MEPP and the environment fund have executed investments amounting to MKD 658,702,000, broken down as follows:

- in 2002, MKD 359,442,000;
- in 2003, MKD 149,100,000; and
- in 2004, MKD 150,160,000.

The fund's only revenue source was user charges for registering motor vehicles and navigation vessels.

The environmental law in force as of September 2005 discontinued the fund. Under the auspices of the Ministry of Environment and Physical Planning, a special department now conducts the fund's activities. The 2005 environmental law introduces new charges for environmental protection based on the polluter-pays principle, and introduces a wider range of environmental taxes and charges to be paid by legal and natural entities. Implementation of these environmental taxes and charges, as well as earmarking of the money collected, would be based on the Annual Investment Program. However, these revenue streams will need to be established, so direct government funding will be required in the short term if progress is to be made.

EU-former Yugoslav Republic of Macedonia relations: the Stabilisation and Association Process

Developments in the Stabilisation and Association Process

The Stabilisation and Association Process (SAP) took a step forward when the Stabilisation and Association Agreement (SAA) came into force in April 2004. After the SAA came into force, the Cooperation Council become the Committee for Stabilisation and Association of the Former Yugoslav Republic of Macedonia with the European Communities, which held meetings in June 2004 and September 2005.

The former Yugoslav Republic of Macedonia presented its application for European Union membership on March 22, 2004. Following a positive opinion from the European Commission on November 9, 2005, the European Council granted candidate status to the former Yugoslav Republic of Macedonia at its December 15-16, 2005, meeting. Negotiations on future membership have yet to be opened.

The ability of the former Yugoslav Republic of Macedonia to assume membership obligations has been evaluated according to the undertaking of obligations set out in the Stabilisation and Association Agreement, and the progress achieved with adoption, implementation and enforcement of the acquis. For legislation enforcement, significant efforts will be needed, particularly in environment, including substantial investment and strengthening of administrative capacity. Full compliance with the acquis can only be achieved in the long term and necessitates increased levels of investment.

The European Partnership

The first European Partnership with the former Yugoslav Republic of Macedonia was adopted by the Council on June 14, 2004; the second European Partnership, adopted in 2005, identified new priorities for action. The new priorities are adapted to the country's specific needs and stage of preparation, and will be updated as necessary. The European Partnership also provides the country guidance for financial assistance. The former Yugoslav Republic of Macedonia is expected to adopt a plan, including a timetable and specific measures to address European partnership priorities.

EU Assistance

The former Yugoslav Republic of Macedonia has benefited from EU assistance since 1992. The PHARE Multiannual Assistance Programme 1996-1999 provided EUR 2 million in 1997 and EUR 3 million in 1999. Institution building and equipment were the main foci of the assistance. In 2000, EUR 1 million from the OBNOVA programme was devoted to protection of the Vardar River from chromium pollution. Under the PHARE Cross Border Cooperation, EUR 1.6 million was provided for environmental protection in cross-border areas.

The CARDS programme has been the main financial instrument for the former Yugoslav Republic of Macedonia, mainly implemented by the European Agency for Reconstruction. EUR 10 million have been allocated to environment for the period 1999-2003.

Agency activities in 1998-2005 included:

- development of new environmental legislation in line with EU laws;
- encouragement of public awareness of environmental conservation;
- provision of new environmental laboratory monitoring equipment, books and information technology for the Ministry of Environment, and vehicles for the environmental inspectorate;
- promotion of the use of unleaded petrol;
- promotion of home composting;
- supplying air-quality monitoring stations to complete the Ambient Air Quality Monitoring Network and calibration laboratory;
- protection of the Vardar River from chromium pollution caused by leakage of chromium waste from an industrial landfill;
- provision of EU assistance to authorities in preparation for the second National Environmental Action Plan and preparation of three solid waste feasibility studies; and
- supplying water-quality monitoring equipment for two water-quality monitoring stations.

ENVIRONMENTAL PRIORITIES IN THE 2005 EUROPEAN PARTNERSHIP

Short-term priorities

- To improve the implementation of legislation and environmental monitoring;
- To strengthen the Environmental Inspectorate and other enforcement bodies, to establish a credible enforcement record, and to ensure that fines and other sanctions are effectively applied and have a dissuasive effect;
- To strengthen administrative capacity at national and local levels, and to start the preparation of strategic plans, including financial strategies;
- To develop an environmental investment strategy based on alignment cost estimates.

Medium-term priorities

- To integrate environmental protection requirements into other sectoral policies, in particular through the development of environmental impact assessments;
- To increase investment in environmental infrastructure, with particular emphasis on wastewater collection and treatment, drinking water supply, tackling air pollution and waste management.

Under the 2004 CARDS programme, EUR 2 million was allocated for institutional strengthening within the Ministry of Environment and Physical Planning (MEPP); EUR 2 million is allocated by the 2005 CARDS programme to further strengthen the framework for sustainable development through assistance to the MEPP in a number of key areas.

The former Yugoslav Republic of Macedonia also benefits from the CARDS Regional Programme. Support was also provided for issues such as cooperation with the European Environment Agency and with other South Eastern European countries in the framework of the Regional Environmental Reconstruction Programme. Besides this, the EC has continued to provide funding under specific budget lines in the fields of environment, justice, home affairs, and the Sixth Framework Programme in Research, under which the country can benefit from funding for indirect actions within all thematic priorities of the programme.

Relations with International Financial Institutions

The World Bank, GEF, EBRD and KFW[7] are major players in environmental infrastructure development, particularly in solid waste and wastewater treatment, but also in environmental management focusing on transboundary water issues. The Italian government is funding a number of environmental projects, in particular activities related to water protection in the Radika River Valley, focusing on solid waste management and wastewater treatment. The Swiss government supports nature conservation relating to national park management and surface water monitoring. German bilateral aid provides a senior air-quality monitoring instrumentation technician with the task of supporting the establishment of an operation and maintenance unit for the MEPP air-quality monitoring network. GTZ[8] continues its assistance in implementation of local environmental action plans.

Several initiatives and projects are underway for the environmental protection of Lake Ohrid. The Lake Ohrid Conservation Project (LOCP) funded by GEF/World Bank was implemented in 1999-2004. It developed the basis for the joint management and protection of Lake Ohrid by Albania and the former Yugoslav Republic of Macedonia.

As stated in the country strategy published in 2004, all new EBRD operations in the former Yugoslav Republic of Macedonia are subject to the bank's environmental policy, and incorporate, where appropriate, environmental action plans into the legal documentation in order to address issues raised during examination, in line with the bank's mandate to actively support environmentally sound and sustainable development through its investment projects.

REReP Priority Areas

State of Legal, Political and Institutional Framework

In the field of environment the following laws, approximated with relevant EU Directives, have been drafted and adopted within the last two years: the Law on Environment, the Law on Ambient Air Quality, the Law on Waste Management, and the Law on Nature Protection; the Draft Law on Waters is expected to be adopted. Laws on GMOs and noise are being developed by the ministry.

According to the new law in the field of environment, the following secondary legislation was recently adopted:

- a decree determining projects for which, and criteria on the basis of which, the screening for an environmental impact assessment shall be carried out (Official Gazette of the former Yugoslav Republic of Macedonia No. 74/2005);
- a decision on determining products for which export/import/trade fees are paid (Official Gazette of the former Yugoslav Republic of Macedonia No. 75/2005);
- a decree for determining the activities of installations requiring an integrated environmental permit, i.e. adjustment permit, with an adjustment plan and time schedule for submission of application (Official Gazette of the former Yugoslav Republic of Macedonia No. 87/2005);
- a regulation for content and form of the inspection card (Official Gazette of the former Yugoslav Republic of Macedonia No. 81/2005); and
- a decree on limits and thresholds for levels and types of polluting substances, deadlines for achieving limit values, margins of toleration, target values and long-term objectives (Official Gazette of the former Yugoslav Republic of Macedonia No. 50/2005).

Environmental Policies and Strategies

Strategic directions of the former Yugoslav Republic of Macedonia in the area of environmental protection and improvement have been defined and elaborated in the National Environmental Action Plan (NEAP) developed in 1996 with financial support provided by the World Bank. The development of the second NEAP, supported within the CARDS 2001, is in its final stages.

The process of integration of the environment into other sectors is a main principle on which the development of the first NEAP was founded. The second

NEAP, to be adopted in March 2006, sets out short- and medium-term goals and actions for environment protection and improvement, observing the terms specified in the National Strategy for the Integration of the former Yugoslav Republic of Macedonia into the EU, the European Partnership Action Plan and the Programme for approximation of national legislation to the legislation of the European Union.

On the national level, the Ministry of Environment and Physical Planning (MEPP) holds the legal obligation to create and implement environmental policy in the former Yugoslav Republic of Macedonia, to lead activities in the area of the environment and to provide for rational use of space and natural resources.

The MEPP undertakes the following activities: monitoring the state of the environment, water, soil, flora, fauna, air and the ozone layer; protection against pollution; protection against noise and radiation; protection of biological diversity, geological diversity, national parks and protected areas; restoration of polluted segments of the environment; proposal of measures for solid waste treatment; spatial planning; spatial information systems; supervision within the scope of its competences; and other activities as stipulated by law. Bodies within the MEPP include the State Environment Inspectorate, the Service for Spatial Information Systems and the Office for Environment. Within the Office for Environment operates the environmental laboratory, which carries out measurements and expert analyses of pollution. According to the Law on Environment, the office will be transformed into the Administration of Environment, as a body within the MEPP, with additional administrative activities under its competence.

Apart from the MEPP, which has the leading role in the field of environment, other ministries also hold direct or indirect competences in the domain of environmental management.

- The Ministry of Defence performs activities related to civil protection.
- The Ministry of the Interior is responsible for implementation of a public security system; production of, trade in, storage of and protection against inflammable liquids, gases, explosives and other dangerous materials and transport of such materials; and for the provision of aid in cases of natural disasters and epidemics.
- The Ministry of Economy conducts geological surveys and exploitation of mineral resources and energy.
- The Ministry of Agriculture, Forestry and Water Economy performs activities related to agriculture, forestry and water economy; use of agricultural land, forests and other natural resources; hunting and fishing; protection of livestock and plants against disease and pests; monitoring and studying of water status, maintenance and improvement of water regimes; hydro-melioration systems; study and research of meteorological, hydrological and bio-meteorological phenomena and processes.
- The Ministry of Health performs activities concerning human health through air, water, soil and foodstuff pollution monitoring; protection against communicable diseases, harmful impacts of gases, ionising radiation, and noise; hygiene and epidemiologic status.
- The Ministry of Transport and Communications performs activities related to inland waterways, housing and public works.

Local self-government units are responsible for regulating and performing activities of public interest and local importance as stipulated by law. The law defines the list of competences of local self-government units, including environment and nature protection. Under new environmental legislation, numerous responsibilities will be delegated to the local government, especially in the domains of waste management, integrated environmental permitting, compliance permits and inspection supervision.

The government recently adopted the following strategies, prepared by the ministry, in the field of Environment: Strategy for Monitoring; Strategy for Data Management; Strategy for Communications; and Strategy for Pubic Awareness Raising. A national strategy and the Action Plan for Biodiversity Protection have also been prepared and adopted in 2004. The National Action Plan for Elimination of Persistent Organic Pollutants was adopted in 2005. The Second National Communication under the Convention on Climate Change is under preparation.

In accordance with the ministry's areas of responsibility and new legislation requirements, the ministry has developed a Functional Analysis with Institutional Development Plan. The major change related to institutions is the establishment of the Administration of Environment as an authority for environmental protection. Through this, future work at the ministry would focus more on creating environmental policy, while the administration will take over the expertise. Both the administration and the ministry need further capacity building. The new law on waters provides that the MEPP will be an authority responsible for water management.

State of Environmental Civil Society

According to the register of non-governmental organisations in the former Yugoslav Republic of Macedonia, approximately 200 environmental NGOs are registered in the country. Many NGOs continue to be active at the local level, mostly focusing on public gatherings for clean-up campaigns, tree-planting, spreading

information on environmental status and trying to provide debate and fora for solving local problems.

The former Yugoslav Republic of Macedonia has ratified the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (the Aarhus Convention). The Public Communication Office functioning within the Ministry of Environment and Physical Planning is a public service that provides easy access to environmental information. The Public Communication Office carries out practical application of Aarhus Convention principles. A national report was prepared on Aarhus Convention implementation, and a strategy on this implementation is in the final stages of preparation.

Regarding environmental media, the monthly magazine *Ecology* is distributed through primary schools but has a broader public readership. Recently, the country's environmental journalists' pool established an Ecological Press Center to organise training for local media and private stations that broadcast environmental information to the general public. However, the group itself is still in need of capacity building and training to fully complete this task. There is no special environmental course or developed curricula for students in primary and secondary schools; it is left to eager teachers to develop environmental education within the subject of biology. Teachers often organise activities such as "eco-clubs" or "biological sections," where interested pupils can volunteer to expand their knowledge on the subject. In 1998, the ministries of environment and education joined the worldwide GLOBE environmental education programme, and four primary and five secondary schools have begun running GLOBE activities in the former Yugoslav Republic of Macedonia.

The Public Communication Office (PCO) is a link between the Ministry of Environment and Physical Planning and the public. The basic principle of the PCO's work is two-way communication with the public. A library functions within the Public Communication Office with a library fund in the field of environment. The office owns computers which are at put at the public's disposal so that interested citizens may obtain useful and new information. The Green Eco-caravan, a mobile Public Communication Office, is used during the organising of campaigns and other activities as a specific tool for communication and getting closer to the citizens.

State of Regional and Cross-border Cooperation

The former Yugoslav Republic of Macedonia is an active participant in the Stability Pact and in the South Eastern European Cooperation Process initiatives. In particular, it has initiated the coordination of countries participating in the SEECP in order to present joint conclusions at the Thessaloniki Summit. Bilateral memoranda for cooperation on EU integration-related matters, which provide contacts at both administrative and political levels, were signed with Bulgaria, Croatia and Slovenia.

Agreements in the area of environment have been signed with all neighbouring countries: Greece (2000), Albania (2000), Bulgaria (2000), and Serbia and Montenegro (2002). Within the wider region, bilateral cooperation in the field of environment has been established with Russia (1998), Croatia (2002), and the Czech Republic (2004). Cooperation on a bilateral basis has been initiated with Hungary, Slovenia and Ukraine. The country has even cooperated intensely with Bavaria, carried out through the activity of the Macedonian-Bavarian Intergovernmental Commission, where environment enjoys high priority.

An agreement between the governments of Albania and the former Yugoslav Republic of Macedonia for the protection and sustainable development of Ohrid Lake and its watershed was signed in July 2004. In the field of environment, the country cooperates with Bosnia and Herzegovina on the implementation of REReP regional projects.

Relations with Bulgaria have also been developing on the basis of the shared objective of preparing for implementation of EU environmental legislation. A memorandum of understanding in the field of environment was signed in 2000, and a number of bilateral meetings on the technical and ministerial level were held. The Joint Project Document of the Neighbourhood Initiative will be a basis for undertaking programme activities in both countries.

The Trilateral Project for Prespa Park is a regional initiative resulting from the Prime Ministerial Declaration on the Creation of the Transboundary Prespa Park and the Environmental Protection and Sustainable Development of the Prespa Lakes, signed by the prime ministers of the former Yugoslav Republic of Macedonia, Albania and Greece in February 2000; the Trilateral Prespa Park Coordination Committee was established as its highest body.

The Strategic Action Plan for Sustainable Development of Prespa Park has provided a basis for the initiation of the multiannual Project on Integrated Management of Ecosystems within the Trans-boundary Area of Prespa Park. The project development block was financially supported by GEF and KfW. Currently, a full project proposal is under GEF consideration.

Cross-border cooperation with Greece on the management of Lake Dojran resources is based on financial support provided through CARDS/INTERREG III A. In the framework of the INTERREG III B CADSES Programme, the former Yugoslav Republic of Macedonia participates in a regional project in the area of spatial planning in South Eastern Europe.

State of Environmental Health Threats and Loss of Biodiversity

There are still significant environmental hot spots in Veles, Bitola, Skopje, Jegunovce and Prilep, where emissions from stationary and mobile sources represent a significant threat to the quality of the environment and human health. However, the present monitoring system cannot establish clear links between environmental conditions and the impact on human health, and additional evidence should be collected about the effects on the exposed population. Moreover, while some information is available for some of the hot spots (e.g. Skopje, Veles), less is known about conditions at other critical sites, since the ability to investigate differs throughout the country.

Among air pollutants, emission of particulate matter and lead from both fuel and industrial sites remains an important cause of concern. The air monitoring network should be regarded as an opportunity to redesign the system so as to allow informed assessment of possible health effects, to clarify the different responsibilities for realisation, and to improve the information flow itself.

The move towards greater government decentralisation threatens to impair health conditions and create gaps in the provision of services between different parts of the country. The fact that environmental health services receive only some 2.5 percent of the total budget allocated to health, and that public health institutes are free to raise money by providing analytical services to investors, municipalities and public and private investors (e.g. in permit application), leads institutes to increasingly invest in analytical equipment to satisfy demand and to compete with one another in providing these services. However, there is the risk of unnecessary proliferation of relatively sophisticated equipment (e.g. that for analysing heavy metals in different media), and the problem of the reliability and quality of analysis, and maintenance of the analytical equipment. Although the State Public Health Institute occasionally provides training on analytical methods, this cannot be considered a substitute for a good programme of common methodology development, inter-laboratory comparability assessment, and data quality assurance and procedures.

Considering its size, the former Yugoslav Republic of Macedonia is a country relatively rich in biodiversity, constituting one of the most important centres of endemism in Europe. A large proportion of its flora and fauna — 117 of the 3,700 higher plant species, and 674 animal species and subspecies — are endemic, and many of these (e.g. 113 of 411 vertebrate species) are also threatened due to various causes.

Basic factors which have led to the current unfavourable state of the environment, including biodiversity, include general historical processes leading to an unstable political and socioeconomic situation, inadequate spatial planning, and inappropriate land use practices. From this process, several underlying causes of biodiversity loss emerge. These include a generally low level of education (particularly in rural areas), resulting in a low awareness of interrelations between human actions and biodiversity; military action in the region, and the state's recently reduced and unstable economic influence; growing poverty resulting in greater dependence of the rural population on natural resources; inadequate and incomplete legislation which fails to clarify duties or address the overlap in responsibilities and competencies within agencies liable for enforcement; non-compliance with existing regulations; lack of spatial planning regulations for areas with special natural values; uncontrolled urbanisation and greenfield industrial investments; migration from rural areas to urban centres; and intensification of agriculture, leading to the abandonment of less competitive local animal breeds and plant varieties.

Mainly as a result of the underlying causes, many direct threats emerge, resulting in further biodiversity loss. The most important are as follows:

- habitat loss due to land conversion, with most pronounced impacts on water dependent habitats such as marshes and swamps; land degradation; and fragmentation due to major transportation channels;
- overexploitation of natural resources, including over-hunting, over-fishing (often with illegal methods such as explosives); and trade in wild species of animals, fungi and plants;
- under-exploitation of meadows and pastures due to the recent decline in livestock, resulting in the expansion of shrub vegetation;
- water extraction; and
- pollution, especially point-source pollution affecting water resources.

ENDNOTES

1 International Bank for Reconstruction and Development and the World Pank, *The Little Green Data book 2004*.

2 Lead and zinc smelter MHK Zletovo-Veles and ferro-alloy SILMAK-Jegunovce, Maksteel-Skopje, Balkan Steel-Skopje, Metalski zavod Learnica-Skopje, FENI Industries-Kavadarci.

3 OKTA Refinery, OHIS chemical complex and TITAN cement factory

4 In the first phase of the inventory, the dioxin-like PCB emissions are not included.

5 MEPP, National Implementation Plan on Reduction and Elimination of Persistent Organic Pollutants, 2004.

6 See the annexes of the EU Habitat Directive and the Bern Convention.

7 KfW banking group, Germany.

8 German Agency for Technical Cooperation (GTZ).

REFERENCES

CIA. "Former Yugoslav Republic of Macedonia" in *The World Factbook.*

EBRD official website <www.ebrd.com>.

EC. *Commission Opinion on the Application from the former Yugoslav Republic of Macedonia for membership of the European Union.* COM (2005) 562. Brussels, November 9, 2005.

EC. *European Partnership with Former Yugoslav Republic of Macedonia.* COM (2005) 557. Brussels, November 9, 2005.

EC. *Stabilisation and Association Report,* 2004.

EC Directorate-General for Economic and Financial Affairs. *The Western Balkans in Transition.*

European Agency for Reconstruction official website <www.ear.eu.int>.

Former Yugoslav Republic of Macedonia. *Biodiversity Strategy and Action Plan of the Former Yugoslav Republic of Macedonia.* Johannesburg Summit, 2002.

World Bank, *The Little Green Data Book,* 2004.

UNECE. "Human Health and the Environment," <www.unece.org/ env/epr/studies>.

National Assessment Report of the Former Yugoslav Republic of Macedonia, July 2002.

"Protection of Natural Heritage" in the *Spatial plan of the Former Yugoslav Republic of Macedonia,* 2004.

National authorities, IMF, EC estimates. (1) Before grants. (2) After grants. (3) Net. EHP.

Environmental Profile:
Serbia and Montenegro

LOCATION

South Eastern Europe, bordering the Adriatic Sea

AREA

Total:	102,350 sq km
Land:	102,136 sq km
Water:	214 sq km

LAND BOUNDARIES

Total:	2,246 km

Borders: Albania 287 km, Bosnia and Herzegovina 527 km, Bulgaria 318 km, Croatia 41 km in the north and 25 km in the south, Hungary 151 km, the former Yugoslav Republic of Macedonia 221 km, Romania 476 km

CLIMATE

Cold winters and hot, humid summers in the north; continental and Mediterranean climate in the centre; hot, dry summers along the southern coast; heavy winter snowfall inland in the south.

ELEVATION EXTREMES

Lowest point:	Adriatic Sea — 0 m
Highest point:	Daravica — 2,656 m

NATURAL RESCOURCES

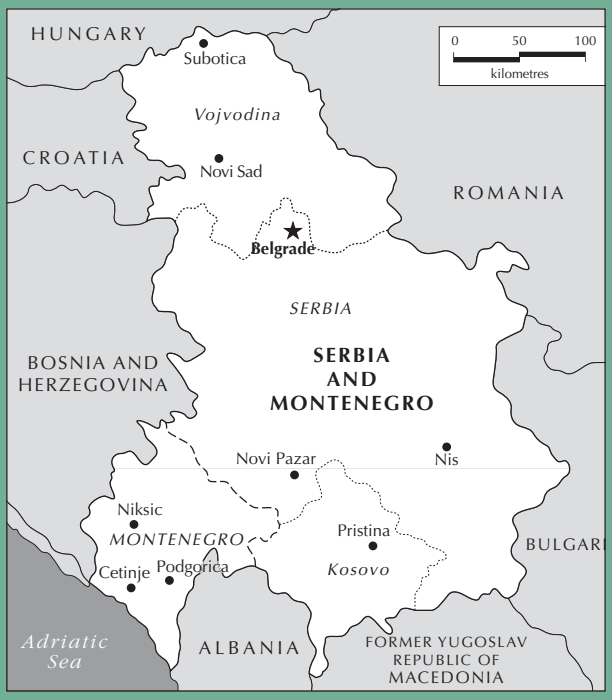
Antimony, arable land, bauxite, chromite, coal, copper, gas, gold, hydropower, iron ore, lead, limestone, magnesium, marble, nickel, oil, pyrite, salt, silver, zinc

NATURAL HAZARDS:

Destructive earthquakes

CURRENT ENVIRONMENTAL ISSUES

In the Republic of Montenegro, pollution of coastal waters from sewage outlets, especially in tourist areas such as Kotor; in the Republic of Serbia, air pollution, waste management, wastewater treatment, and hazardous waste.



MAIN ECONOMIC TRENDS

	2002	2003	2004	2005 (projected)
Growth in GDP (real change, in percent)	3.8	2.7	7.2	4.0
Inflation (change in consumer price index, in percent)	21.2	11.3	9.5	16.2
Foreign direct investment (in million USD)	562	1,405	1,028	1,600
Unemployment rate	29.0	31.7	31.7	n.a

Environmental Profile: **Serbia and Montenegro**

Introduction

The State Union of Serbia and Montenegro is a topographically diverse country situated in the centre of the Balkan Peninsula. The territory of Serbia and Montenegro, today encompassing the Republic of Serbia in the north and the much smaller Republic of Montenegro in the south, has a total area of 102,173 square kilometres and a population of 8.2 million. Serbia and Montenegro is rich in natural resources and has a high level of biodiversity, with a legacy of strong environmental management and a developed environmental legal framework from the past political regime. With 300 kilometres of coastline along the Adriatic Sea, and 588 kilometres along the Danube River, the country has an essential role to play in some of the primary shared resource regimes in South Eastern Europe.

In the Republic of Serbia, the Ministry of Science and Environmental Protection has the key responsibility in environmental protection. The Directorate for Environmental Protection is an authority within the Ministry for Science and Environment and has a wide range of responsibilities. Other ministries with competences for the environment include the Ministry of Agriculture, Forestry and Water Management; the Ministry of the Economy; the Ministry of Health; the Ministry for Capital Investment; the Ministry for Mining and Energy; and the Ministry of Trade, Tourism and Services. Municipalities and cities have competences in the field of urban planning, environmental protection, improvement of the environment, and public utilities.

In the Republic of Montenegro, the Ministry of Environment and Physical Planning is the body responsible for most activities concerning environmental protection. The Ministry has legal competence related to the general policy of environmental protection with authority in the following fields: protection of nature and protected natural resources; air protection; trade and disposal of hazardous materials; ionised and non-ionised radiation issues; protection from the effects of hazardous and harmful substances; chemicals; and biodiversity. Other ministries with competence for the environment are the Ministry of Economy; the Ministry of Health; the Ministry of Agriculture, Forestry and Water Resources; and the Ministry of Internal Affairs. On the local level, major competence regarding environmental policy is vested with regional offices of the different ministries. Local government has much less power, although they are not excluded.

Serbia and Montenegro continues its active participation in regional initiatives such as the South Eastern Europe Cooperation Process (SEECP), the Stability Pact for South Eastern Europe, the Central European Initiative, the Adriatic-Ionian Initiative, and Initiative Tisa. In April 2003, Serbia and Montenegro joined the Black Sea Economic Cooperation Council and ratified the International Commission for the Protection of the Danube River. Serbia and Montenegro has actively participated in REReP, the Interim Sava Commission, and in the International Commission for the Sava River Basin.

Current Environmental Conditions

Soil, Forests, Agricultural Land

Forests cover 28 percent of Serbia and Montenegro territory; forestland represents one of the nation's most important natural resources, particularly in the Republic of Montenegro with its 543,000 hectares (or 39 percent of the territory) of forest. Forestry has a specific role in the economy of Serbia and Montenegro due to public interest in environment, generation of jobs and revenue. Hence, investment is needed in forest reproduction and in development of forestry infrastructure. Forests cover about 27 percent of the territory of the Republic of Serbia. The state owns 56.2 percent of these, and private interests 43.8 percent. State-owned forests tend to cover larger areas and are characterised by a better species structure than private forests. By law, state-owned forests are managed by public utility companies. Excessive cutting of trees in mountainous parts of Serbia and Montenegro is responsible in part for increased erosion and flooding. In Montenegro, the Tara and Lim basins were identified as particularly vulnerable areas.

Around 36 percent of Serbia and Montenegro is arable land, and 13 percent pasture. Due to very intensive agriculture, about 20,000 square kilometers (or 20 percent of Serbia and Montenegro land) can be classified as degraded, mostly due to water erosion, except in Vojvodina where the main cause is wind erosion. The rate of soil erosion is three to four times that of the natural level. Erosion, not all related to agriculture, is reported to be moderate to extreme for 26 percent of Serbia. Among other causes of land degradation are open pit-mining and unregulated waste disposal. Of the total degraded area, only 4 percent is in Montenegro, which is mountainous and less industrially developed than Serbia. Large areas of land around many industrial complexes have been severely polluted by various heavy metals and persistent organic pollutants, and are now classified as environmental hot spots. Irrigation is used on only 40,000 hectares in the Sava and Danube Basins. Problems of oversaturation and salinity have not been reported.

Serbia is well suited to intensive agricultural production. Indeed, Serbia (not including Kosovo and Metohia) is comprised of 66 percent agricultural land. Of the total population of the Republic of Serbia, 10 percent work in the agricultural sector, contributing 19.2 percent to national GDP. About 85 percent of farmland is privately owned, and 15 state-owned. Private farms tend to be small and fragmented, and many are used principally for subsistence farming. State farms are usually large, highly mechanised and located in the fertile and flat plain regions. In Serbia and Montenegro's portion of the Danube Basin, there are about 100 farms with an average of 1,000 cattle and 130 pig farms for a total of 1.2 million animals. Very few of these farms have any advanced form of waste collection and treatment; simple lagoons are common. The resulting runoff of nitrogen and phosphorus into the Danube and, eventually, into the Black Sea, contributes to the eutrophication of this international water body and a decline in fish production and biodiversity.

Water

On the whole, Serbia has plenty of freshwater, but distribution varies across space and time. It is estimated that about 8 percent of all available surface water originates within Serbia. The remainder comes from outside national borders through the Danube, Sava, Tisza, Drina and other rivers. Existing groundwater resources in Serbia and Montenegro amount to 244 cubic metres per capita per year. Total abstraction is about 180 million cubic metres per year. The extraction of groundwater exceeds the natural capacity of replenishment in certain aquifers, leading to reduced levels of groundwater. Groundwater resources are of special significance for Serbia, as they provide up to 90 percent of the water supply for households and industry and about 70 percent of drinking water.

Household surveys show that around 84 percent of the population in Serbia and Montenegro has running water. According to the findings from the Public Health Institute of the Republic of Serbia, 29 percent of samples from water supply systems did not satisfy physical, chemical or bacteriological standards in 2001. The sewage system in Serbia serves only about 33 percent of the country's population, insufficient for adequate protection of water quality. According to a 2003 World Bank report, sewage systems serve 45 percent in urban areas of Vojvodina, 76 percent in the cities of central Serbia, and about 22 percent in rural areas of Serbia. Only 28 towns in Serbia have municipal and industrial wastewater treatment plants.

In the Republic of Montenegro, only 60 percent of residents are connected to the public sewage system, with large regional differences. Wastewater treatment plants are heavily overburdened and often discharge untreated sewage. Water quality problems at coastal beaches are of particular concern, given the impact on health, environment and tourism. In small towns and rural settlements, sewage systems are nonexistent, with around 28 percent of the population using septic tanks and absorbing wells, the contents of which are not always disposed of properly.

In addition to deterioration leading to significant physical losses of 50 percent or more and limitations in water treatment and sewers, the system is plagued by high per capita water consumption. This figure reaches 300 litres per capita per day, whereas the average in Europe is 180-200, and collection rates can be as low as 50 percent. There is a lack of demand management and misuse of the water supply for non-household activities such as irrigation in peripheral areas. In Montenegro, water supply and wastewater treatment are insufficient to meet summertime needs, when tourists more than double the area's population to over 500,000.

The water quality in Serbia is generally low and is deteriorating. Examples of very clean water of Class I and I/II are rare, and those that exist are found mainly in mountainous regions, e.g. along the Djetinja, Rzav, Studenica, Moravica and Mlava rivers in central Serbia. The most polluted rivers include the Stari Begej, Lugomir, Crnica, Lukavic and Veliki Lug. The water quality suffers especially from eutrophication caused by nutrients and organic pollutants from untreated sewage and agricultural run-off, and heavy metals. In large rivers such as the Danube, Sava, Tisa and Morava, increased bacteriological pollution is found downstream of large cities such as Belgrade and Novi Sad.

Air

The main sources of air pollution in Serbia include: the energy sector, i.e. thermoelectric power plants; oil refineries; district heating plants; the chemical industry; household fuel combustion; industry; individual heating boiler plants; traffic; construction; inadequate storage of raw materials; and waste dumpsites.

The majority of air pollution results from the combustion of low-quality lignite and engine fuel. Low energy prices, irrational and inefficient energy consumption, inefficient combustion technologies, inadequate maintenance of industrial plants, and obsolete vehicles increase emissions despite the reduced industrial and economic output in Serbia and Montenegro.

Important sources of air pollution are the oil refineries in Pancevo and Novi Sad, the cement factories in Popovac, Kosjeric and Beocin, and chemical plants and metallurgical complexes located in Pancevo, Krusevac, Sabac and Smederevo. Old vehicles, many of which were recently imported, still use leaded or low-quality fuel. No plans to introduce systems of vehicle control in traffic to improve maintenance and reduce the discharge of leaded fuel are in place. Pollution, including soot concentrations, resulting from traffic is increasing, especially in larger towns.

Systematic monitoring of air quality is performed through a network of measuring points. Results during the year 2002 indicate that the average annual value for sulphur dioxide (SO_2) exceeded the maximum daily allowable concentration (MAC) in Bor, Smederevo, and Kragujevac. Concentrations were exceptionally high in Bor at 117 micrograms per cubic metre, compared to the MAC of 50 micrograms. The MAC was exceeded in Bor on 123 days, indicating that over 34 percent of all measurements were above the MAC.

In Montenegro, the levels of pollution from SO_2 and PM are periodically above limit values in the vicinity of Niksic (due to the ironworks plant), Plevlja (the coal mine and power plant), and Podgorica (the aluminium smelter). Regarding global and transboundary aspects of air pollution, Serbia and Montenegro ranks among those countries whose estimated yearly consumption of controlled ozone depleting substances is less than 0.3 kilograms per capita.

Biodiversity

The great scope of biological diversity in Serbia and Montenegro is caused by its bio-geographical position and the openness of the territory to surrounding regions. It hosts a large variety of ecosystems ranging from Mediterranean and sub-Mediterranean evergreen forests, various deciduous forests, and coniferous woods typical of the Euro-Siberian and North American regions, to freshwater bodies and marine ecosystems on the Adriatic. This makes Serbia and Montenegro one of the six European centers of biological diversity, and is home to 39 percent of Europe's vascular plant species, 51 percent of its fish fauna, 74 percent of its bird fauna, and 68 percent of its mammalian fauna. The flora and fauna of Serbia and Montenegro is characterised by a great diversity of species, including more than 8,000 plant species, 15,500 animal species, 550 species of fungi, and about 400-500 species of lichen. The exceptional richness of plant and animal species and their communities is further illustrated by the existence of around 1,400 species of freshwater algae, 1,500 species of marine algae, 565 species of moss and 650 species of macromycete. Around 1,600 wild plant and animal species considered internationally significant inhabit Serbia and Montenegro.

A number of Serbia and Montenegro's nature areas have been recognised as internationally significant. Among these are the Obed Swamps, Ludas Lake, Shkoder Lake, and Carska bara–Stari Begej, Ramsar Wetlands of International Significance; on the World Natural Heritage List is Durmitor National Park with part of the Tara River Canyon and the Kotor-Risan Bay; and the Tara River Canyon, which has been included in the biosphere reserves grid of the UNESCO Man and Biosphere Programme. Serbia and Montenegro is a signatory to the Convention on Biological Diversity (1992) and the Convention on Trade in Endangered Species of Wild Fauna and Flora (1973), and ratified both treaties in 2001.

National Environmental Priorities

In Serbia[1]

General policy objectives of the National Environmental Strategy address the general causes of environmental problems, grouped in the following key policy areas:

- Full integration of environmental policy with economic and other sectoral policies, and sectoral environmental strategies should be developed and implemented. Environmental principles should also be integrated into spatial and urban planning.
- Institutional capacity for development and enforcement of sectoral and environmental policy should be strengthened generally and emergency response systems should be developed.
- Upgrading the environmental monitoring and enforcement system will require establishing accredited laboratories, enforcement of norms and standards and mandatory quality control of analy-

ses and emission monitoring, self-monitoring by polluters, the establishment of inventory of polluters and an environmental information system.

- Developing a comprehensive legal environmental system through adoption of sectoral laws and bylaws, improved law enforcement monitoring, and increasing capacities of the judiciary system. Laws relevant to the environment should be further revised and gradually harmonised with the EU environmental acquis;
- Establishing an effective system of environmental financing and economic incentives. Environmental liabilities should be adequately addressed in the process of privatisation. The polluter-pays principle should be fully implemented. An effective system of economic instruments should be introduced to provide strong incentives for pollution reduction. Effective financing mechanisms should be introduced to stimulate environmental expenditures and provide reliable sources of financing for the Environmental Fund.
- Improving formal and informal environmental education to be based on the National Strategy for Environmental Education. Increase environmental awareness through improved information and communication with the public and develop mechanisms for public participations in environmental decision making in line with the Aarhus Convention.

Implementation of policy objectives of the National Environmental Strategy requires significant reform of current environmental policy and environmental institutions. Environmental policy reform efforts are broadly divided into two phases.

The short-term phase (2005-2009) should involve practical, financially feasible reforms which can be implemented immediately. These reforms refer primarily to legislative and regulatory reforms, aiming at harmonisation with the EU environmental acquis.

The medium-term phase (2010-2014) will be dependent upon prior implementation of the preceding phase. It should focus on wider application of incentive-based instruments, accelerated harmonisation with the EU environmental acquis, improvement of environmental quality, strengthening public and stakeholder involvement in decision making, and resolving problems at other threatened sites. Major capital investment projects will be implemented during this phase, particularly in urban wastewater treatment, waste management infrastructure and industrial pollution abatement.

In Montenegro[2]

In March 2001, the government of Montenegro commissioned a study entitled, "The Developmental Directions of Montenegro as an Ecological State," which represents a long-term sustainable development strategy. The document reflects the distinctiveness of Montenegro with respect to its unique natural characteristics and represents a basis for establishing sustainable development through the integration of economic, ecological and social development. Specific objectives of sustainable development are set in the fields of mineral-raw materials, power supply, agriculture, forestry, industry and transport. The government of Montenegro adopted the Agenda of Economic Reforms for Montenegro for 2003-2006 as a comprehensive four-year plan in March 2003.

The agenda defines the following as priority activities in the area of environment:

- modification of the umbrella Environment Law consistent with European Union standards and requirements;
- harmonisation with EU standards and requirements, and implementation of relevant subordinate laws and regulations — i.e. environmental impact assessment, solid waste, radiation, hazardous waste, integrated pollution prevention control (IPPC), environmental labeling, noise pollution, environmental taxes and fees, air quality, protected areas, and rights and procedures for environmental inspection — under the exclusive authority of the Ministry of Environment and Physical Planning;
- harmonisation with EU standards and requirements and implementation of other relevant laws and regulations (i.e. water, forestry and hunting, agriculture, mineral resources, marine and fresh water fisheries, privatisation, trade, transport, public health, tourism, and coastal zone management) wholly or partly under the authority of other ministries;
- establishment of the Environmental Protection Agency (EPA) by combining relevant scientific and technical institutes in a new EPA as an umbrella agency subordinate to and serving the needs of the Ministry of Environment;
- foundation of the Montenegro Ecological Fund;
- support in implementation of all environmental laws and regulations at the municipal level (i.e. decentralisation of environmental responsibilities and training);
- information dissemination and support of public participation in environmental decision making at all levels, i.e. collaborative development of a programme of information exchange and dissemina-

tion among federal and municipal government entities, NGOs and other community organisations aimed at encouraging and increasing public participation in environmental decision making;

- development of a comprehensive environmental information and monitoring system, i.e. revision of the current state environmental monitoring programme and its methodology based on internationally accepted criteria making compatible other countries' data; elaboration of internationally-based quality observation, sampling, analytical work and data processing standards; new equipment for field observations, sampling and laboratories; data processing technology and software; and elaboration of special monitoring programmes for protected territories such as state nature reserves, national and regional parks, and strictly managed nature reserves;
- strengthening of pollution control in the energy sector, industry, agriculture, forestry, transport, and elaboration of a new municipal sector model based on the polluter/user-pays principle; and
- improvement of protected areas management and biodiversity conservation, i.e. strategy development; conformity with the Convention on Biodiversity (CBD) and other international conventions; review and completion of the "red list," habitat characterisations and other records, with annual revisions; revision of laws and regulations accordingly; and an elaborate network of protected areas with regular review and revision based on monitoring.

National Funds and Economic Instruments for the Environment

In the Republic of Serbia, approximately 0.05 percent of the Republic's budget was spent for environmental investments in 2005.

The Environmental Fund of the Republic of Serbia is established by the Law on Environmental Protection. The government of the Republic of Serbia appointed its director and management board on February 24, 2004. The Fund for Environmental Protection became operational on May 25, 2005. Development of projects to be financed by the fund is ongoing. Initial funds were provided by the Ministry of Finance. The fund is financed from:

- earmarked funds of the republic budget realised on the basis of penalties for activities in the trade of wild flora and fauna, EMAS system registration fees, and charges for environmental pollution;
- funds realised on the basis of changes in ownership of the firms in the privatisation process;
- revenues realised on the basis of international bilateral cooperation on programmes, projects and other activities in fields of environmental protection and energy efficiency;
- revenues and receipts from the management of the fund's liquid assets;
- contributions, donations, grants and assistance; and
- other sources in compliance with law.

At present in the Republic of Montenegro, the eco-fund laws are in the process of adoption by the government. Establishment of the eco-fund would contribute to efforts to protect environment, follow the principle of sustainable development, and strengthen Montenegro as a proclaimed ecological state.

Adoption of the Law on the Eco-fund and formation of the eco-fund as a separate account would increase financial resources to solve the country's environmental issues, and advance measures to achieve goals of sustainable development the government laid out as a self-proclaimed ecological state. The eco-fund would also encourage the process of association in the European Union. Furthermore, the fund would have an important role in the implementation process of the polluter/user-pay principle due to the significant resources of revenue from economic instruments, i.e. taxes and fees, related to environmental protection. Since it is crucial to spend limited existing resources in the most efficient way, and it is indispensable to attract international and commercial financing, the fund as an institution with management of the overall eco-financial resources would have an essential role in accomplishing these goals.

Economic Instruments for Environment in Serbia

The Law on Environment Protection in the Republic of Serbia provides the basis for application of effective economic instruments: user charges, environmental pollution charges, refund or exemption mechanisms and/or reduced charges for environmental pollution, and local government fees. In compliance with this law, adoption of bylaws, regulations and an action plan for the implementation of economic instruments is necessary. In the water sector, a legal basis exists for penalisation for the introduction of effluent charges unrelated to wastewater standards. Economic instruments currently in force include mainly user charges (for water abstraction, water supply, waste, and natural resources) and non-compliance charges, which are generally set below incentive levels. MSEP-DEP has prepared a draft ordinance on charges for air pollution.

Effluent charges are paid by those discharging into surface water, groundwater or manmade channels. Charges are based on the volume of discharge and the quality of the recipient body. Published rates are increased by 50 percent for Class I water bodies, and 25 percent for Class II. Polluters may be exempt from charges if they have primary or secondary treatment plants. Revenues are collected in a special account of the Ministry of Agriculture, Forestry and Water Management and are earmarked for water-related expenditures.

Exemption from payment of import duties is applied to equipment used directly in environmental protection, provided that the equivalent equipment is not produced locally. User charges are currently the most widely used economic instruments. Industry, agriculture and drinking water supply enterprises and communities pay charges for abstraction of a permitted volume of water according to tariffs set out in the Decree on Charges for Water Abstraction, Water Protection and Material Excavated from Water Bodies. In addition, rates based on the final price of products are payable for bottled water. Enterprises and households receiving water from public water supply systems pay charges according to user categories or quantity. Tariffs are also payable by enterprises and households on the basis of sewage discharge.

Economic Instruments for Environment in Montenegro

As in Serbia, the Law on Environment (Official Gazette RCG, no 12/96) gives the bases for application of certain economic instruments such as the polluter/user-pays principle. The amount and method of payment of different eco-instruments are further regulated by sub-laws. In that sense, the act on fees and the process of balancing and payment for environmental pollution (Official Gazette RCG 26/97) establishes fees for emission and products which have negative effects on environment (i.e. air emission, hazardous waste, fossil fuels, CFCs and motor vehicles). This act can be seen as very progressive, taking into account the time of passing and fees it regulates, e.g. fee for use of fossil fuels, which are rarely seen today in even more developed policies on environmental protection. However, the act has not been implemented. Thus, only revenue from eco-instruments that goes to the budget is the once of 1 percent of the investments that requires EIA study by the Law on Environment (Official Gazette RCG, no 12/96), and fee on motor vehicles registration.

Some financial instruments for water use and pollution, use of natural resources and biodiversity are being executed; fuel, motor vehicle and boat taxation are regulated through the taxation policy. Revenue generated from these fees goes directly to the republic budget or the accounts of the institutions in charge of individual resources, e.g. the Forest Directorate, and the Public Enterprise for National parks.

Popular opinion is that existing financial instruments and fees are insufficient in number and efficacy to ensure implementation of the polluter/user-pays principle and a change in behavior toward environment. Depleted economic power of the citizenry, current low levels of revenue, and possible regressive effects of financial eco-instruments are the main obstacles to the introduction of new financial eco-instruments. However, eco-instruments are mainly seen as an insufficiently used tool in achieving environmental protection goals and in collection of financial resources.

The new Law on the Eco-fund, in the process of adoption by the Government of Montenegro, regulates financial eco-instruments in some manners.

EU-Serbia and Montenegro Relations: the Stabilisation and Association Process (SAP)

Serbia and Montenegro is participating in the Stabilisation and Association Process (SAP). Formal contractual relations between the EU and Serbia and Montenegro should be established through the conclusion of a Stabilisation and Association Agreement (SAA). On October 3, 2005, the council adopted negotiation directives and authorised the start of negotiations between the EU and Serbia and Montenegro. SAA negotiations were officially opened in Belgrade on October 10, 2005.[3]

The EU Council of Ministers adopted the decision on the principles, priorities and conditions contained in the European Partnership with Serbia-Montenegro including Kosovo, in compliance with UN Security Council Resolution 1244 of June 10, 1999. This mechanism shall exclusively determine relations between the EU and Serbia and Montenegro until the Stabilisation and Association Agreement has been signed.

This renewed European Partnership[4] lists short- (12-24 months) and medium-term (three to four years) priorities in preparing for further integration into the European Union.

EU Assistance

The CARDS programme, mainly implemented by the European Agency for Reconstruction, has been the main financial instrument for Serbia and Montenegro.

EUR 14 million was allocated to Serbia for environment for 1999-2003. All agency programmes have addressed problems on a nationwide basis: Enterprises,

ENVIRONMENTAL PRIORITIES IN THE 2005 EUROPEAN PARTNERSHIP

Short-term priorities for Serbia:

- To continue approximating legislation to EU legislation and standards in air pollution, waste management and nature protection;
- To adopt and begin implementing the National Environment Protection Strategy;
- To strengthen administrative capacity, notably of institutions and bodies responsible for planning, permitting, inspecting, monitoring, and project management;
- To develop a multi-annual plan for financing investment;
- To implement adopted legislation, notably on environmental assessments and industrial pollution;
- To start construction of a facility for the treatment and safe disposal of hazardous waste.

Short-term priorities for Montenegro:

- To continue approximating legislation to EU legislation and standards, notably environmental protection framework legislation;
- To implement and enforce adopted legislation;
- To develop an overall environment protection strategy for water, waste, and air;
- To adopt the Land Use Plan;
- To adopt the sustainable development strategy and sectoral strategies, e.g. integrated coastal zone management, biodiversity, climate change;
- To strengthen administrative capacity.

Medium-term priorities for both republics:

- To continue implementing and enforcing legislation approximated to EU legislation;
- To continue implementing legislation on environmental impact assessment;
- To ratify and start implementation of the Kyoto Protocol;
- To ensure a viable financial framework for the implementation of a medium- to long-term environmental protection policy.

Medium-term priorities for Serbia:

- To adopt and start implementing strategies on air pollution, waste management and nature protection;
- To continue implementing the National Environment Protection Strategy and the Water Strategy.
- To continue strengthening the administrative capacity of environmental institutions and bodies;
- To begin implementing the multi-annual plan for financing investment;
- To finalise construction of a facility for the treatment and safe disposal of hazardous waste.

Medium-term priorities for Montenegro:

- To continue approximating legislation to EU legislation and standards, notably legislation on air pollution, water and waste.
- To begin implementing the land use plan and the overall environment protection strategy.
- To develop an overall environment protection strategy for water, waste, and air;
- To begin implementing the sustainable development strategy and sectoral strategies, i.e. integrated coastal zone management, biodiversity, climate change;
- To continue strengthening the administrative capacity of line ministries and bodies in charge of environmental planning, permitting, inspecting, monitoring, and project management.

health institutions, and municipal services across the country have all been helped. In 2002, EUR 50,000 was allocated for capacity building in the environmental field; in 2003, EUR 8 million.

From the CARDS Annual Programme 2004, EUR 14 million was allocated for environment for supporting the hazardous and medical waste treatment facility through design and construction of a physical-chemical treatment facility; design and construction of a class I landfill; design and construction of a hazardous waste storage station; and further capacity building for the Ministry for Protection of Natural Resources and the Environment, and the Environmental Protection Agency in the planning, management and monitoring of large-scale environmental infrastructure development projects and implementation of the National Hazardous Waste Management Plan. In line with the European Partnership with Serbia and Montenegro, the CARDS Annual Programme 2005 allocated approximately EUR 9.5 million for Serbia to support capacity building in the water sector.

For Montengro, EUR 6 million was allocated for 1999-2003 for environment. Agency activities include preparing a feasibility study on the priorities of wastewater treatment in the coastal region; preparing a feasibility study on introducing regional solid waste disposal sites; construction of sewerage and a waste treatment plant by Skadar Lake in Virpazar. In the period 2002 to 2004 some EUR 5.7 million was spent on environmental issues (i.e. waste management, wastewater treatment,

and institutional and capacity-building) under CARDS. In 2005, EUR 1.2 million was allocated for institutional and capacity building of the Ministry of the Environmental Protection and Urban Planning of the Government of Montenegro. Establishment of the Environmental Protection Agency is one task in the project.

The CARDS Programme allocation for 2005-2006 for environment and natural resources for Serbia and Montenegro amounts to EUR 37 million.

Relations with International Financial Institutions

In Serbia, the World Bank has supported governmental efforts to integrate environmental concerns into privatisation, and plans to focus on environmental and social considerations of the mining industry in the Bor region. The World Bank also supports programmes to reduce livestock-based pollution of the Danube, improve drainage and flood management, and promote agro-biodiversity in the south. In Montenegro, the focus of the World Bank's programme is on sustainable tourist management through a loan for improved solid waste, water and wastewater management in coastal areas, and land-use planning and watershed management in coastal and hilly areas.

EBRD activities in Serbia and Montenegro increased significantly during the last strategy period, reaching EUR 691 million by March 2005 (in 2004, this number was 146 million). Initially, energy and other infrastructure projects dominated the portfolio, but the bank has since successfully shifted its focus to the private sector and has diversified its portfolio. The bank's approach to supporting environmental improvement within Serbia and Montenegro is twofold. First is the ensuring, through support of specific environmental projects, that key environmental concerns are addressed. For example, coastal pollution within Kotor Bay mainly caused by discharge of untreated municipal wastewater is currently being addressed through development of a municipal infrastructure project for the city of Herceg Novi. Similarly, the city of Subotica municipal project addresses the pollution of Lake Palic on the outskirts of that town. Secondly, all EBRD operations in Serbia and Montenegro are subject to the bank's environmental policy and incorporate, where appropriate, environmental action plans in legal documentation in order to address issues raised during environmental due diligence.

REReP Priority Areas

State of Legal, Political and Institutional Framework

The Constitutional Charter of State Union Serbia and Montenegro (adopted in February 2003) states that environmental protection is the responsibility of the two constituent republics. However, the State Union Serbia and Montenegro is an international entity and is therefore subject to international agreements, including those on environment.

Republic of Serbia

The legal/legislative and institutional framework is founded in the Constitution of the Republic of Serbia, stipulating the right to a healthy environment and the duty of all, in line with the law, to protect and enhance the environment. Environmental legislation in Serbia consists of large number of laws and regulations (approximately 100). Legislative, executive and judicial powers are mostly practiced through the legally prescribed scope of competences of republic authorities. According to the law, certain competences are delegated to the autonomous province and the local government.

The new legal framework for environmental protection was introduced in 2004 in the Republic of Serbia by the Law on Environmental Protection, the Law on Strategic Environmental Assessment, the Law on Environmental Impact Assessment, and the Law on Integrated Prevention and Pollution Control. The most significant issues covered by the Law on Environmental Protection include fundamental principles of environmental protection; management and protection of natural resources; measures and conditions of environmental protection; environmental programmes and plans; industrial accidents; public participation; a monitoring and information system; clearly identified competences of the Environmental Protection Agency; reporting; financing environmental protection; and inspection services and fines. The new laws are harmonised with the EU Directives on Environmental Impact Assessment (85/337/EEC), Strategic Impact Assessment (2001/43/EC), IPPC (96/61/EC) and Public Participation (2003/35/EC).

The Ministry of Science and Environmental Protection Directorate for Environmental Protection (DEP) has the key responsibility in environmental protection. The Directorate for Environmental Protection (DEP) is an authority within the Ministry for Science and Environment and has a wide range of responsibilities identified in the law.

Other ministries with competences for the environment include the Ministry of Agriculture, Forestry and Water Management Directorate for Forests and Direc-

torate for Water (in water, forests, livestock farm waste, etc.); the Ministry of the Economy (in industry); the Ministry of Health (in enforcement of sanitary regulations relevant to the environment); the Ministry for Capital Investments (in urban planning, construction and use permits, and road, air, rail and water traffic); the Ministry for Mining and Energy (in energy efficiency, and permits for extraction of mineral resources); and the Ministry of Trade, Tourism and Services.

Responsibilities for water resource management and water quality are with the Directorate for Water, which is within the Ministry of Agriculture, Water Management and Forestry. The Directorate for Water is also specifically responsible for development of water management policy, rational consumption of water resources, provision of drinking water supply (excluding distribution), flood protection, issuance of permits for water abstraction and discharge, and collection of fees for water use and discharge.

In addition, there are several institutions responsible for environmental monitoring, including the Institute for Nature Protection, the Hydro-Meteorological Institute (also known as Hydromet), and public health institutes. The Environmental Inspectorate covers compliance monitoring and monitoring of emissions. The Recycling Agency, which is a government institution not subordinate to the Ministry for Science and Environment, is given responsibility for waste management, particularly in recycling and waste recovery.

In 2002, certain environmental competences were transferred to the Autonomous Province of Vojvodina under the Law on Competences of the Autonomous Province of Vojvodina. The Provincial Secretariat for Environmental Protection and Sustainable Development of the Autonomous Province of Vojvodina has competences related to environmental programme development, pollution control, EIA, inspection, and monitoring within its territory.

There is an overlap of competences between the Water Directorate and the Directorate for Environmental Protection in relation to water quality and water pollution.

Forest management is under the discretion of the Forest Directorate, which forms part of the Ministry of Agriculture and Water Management. A potential conflict of responsibilities exists between the Forest Directorate, which manages forests considered to be within the economic sector, and the DEP, which is charged with protection of forest ecosystems.

Municipalities have competences in the field of urban planning, environmental protection and improvement of the environment and public utilities. At the local level, secretariats for environmental protection have limited competences for environmental management including air-quality protection, noise protection, management of communal waste, urban planning, construction permits for smaller facilities, and strategic assessment of plans, programmes, EIA and integrated permits within their statutory tasks.

Republic of Montenegro

In accordance with the constitution, the Republic of Montenegro adopted the Environmental Law ("Official Gazette of the Republic of Montenegro," nos. 12/96, 55/00) in April 1996. The law set up the first environmental protection system in Montenegro, the first obligations of entities performing activities potentially damaging to the environment to take prescribed measures for environmental protection and established environmental standards, and appropriate penalty provisions. The environmental policy is implemented through the National Environmental Protection Program, which has been adopted by the government of Montenegro. Local authorities and institutions responsible for protection of particular environment sectors adopt individual protection programmes that must be harmonised with the national programme. Supervision as to the enforcement of the law and regulations shall be entrusted to the ministry. The activities of such are performed by the environmental inspection in compliance with the law.

Air management is still subject to the 1980 Law on Air Protection ("Official Gazette of the Republics of Serbia and Montenegro," nos. 14/1980 and 16/1980). The Law on Agricultural Land ("Official Gazette of the Republic of Montenegro," no. 15/1992) prescribes models of protection of this resource. The Law on the Protection of Nature ("Official Gazette of the Republic of Montenegro," nos. 36/77, 2/82) protects nature as a whole along with natural areas of remarkable value. According to this law, the Republic Institute for Protection of Nature enacts regulations for granting the status of protected area to certain objects of nature.

The Law on National Parks ("Official Gazette of the Republic of Montenegro," no. 47/91), defines the protection, conservation and management of national parks as natural assets of general interest. In the Republic of Montenegro are four national parks: Biogradska gora, Durmitor, Lovcen and Skadarsko jezero. Procedures for the preparation and adoption of the Physical Plan for National Parks and the Program for Protection Development and Maintenance of National Parks are defined by this Law. Competencies of wardens and park rangers are established in last part of the law.

The Energy Law ("Official Gazette of the Republic of Montenegro," no. 39/2003) regulates the following energy sector activities: generation, transmission, distribution and supply of electricity in the market and/or as a public service; organisation and functioning of the electricity market; production and the market of coal

for the needs of electricity generation; and transport, distribution, storage, wholesale and retail trade, and supply of petroleum products and gas.

The Law on Spatial Planning and Development ("Official Gazette of the Republic of Montenegro," no. XX/2004) regulates the basis for spatial planning and development, types, content and procedure for the preparation and adoption of plans; conditions for those preparing plans and for their implementation; and carrying out supervision of the implementation of the provision in the law.

Several new laws have been recently adopted by the Government of Montenegro, including:

- the Law on Strategic Environmental Assessment;
- the Environmental Impact Assessment (EIA); and
- Integrated Pollution Prevention and Control (IPPC).

A draft law on the eco-fund is in the process of adoption by the government of Montenegro).

The Republic of Montenegro has most institutions necessary to implement environmental legislation in place. The Ministry of Environment and Physical Planning is the body responsible for most activities concerning environmental protection. The ministry has legal competence related to the general policy of environmental protection and also has authority in the following fields: protection of nature and protected natural resources; air protection; trade and disposal of hazardous materials; ionised and non-ionised radiation issues; protection from the effects of hazardous and harmful substances; chemicals; and biodiversity. In addition, the ministry has authority over development and implementation of physical planning documents, granting construction permits, arrangement systems, utilisation of construction sites and solid waste management. In the development of physical planning documents, implementation of strategic impact assessment is obligatory; in construction permit issuance the implementation of environmental impact assessment (EIA) is now obligatory. The ministry administers supervision over the Hydro-meteorological Institute, and public enterprises, including the national parks of Montenegro, the Center for Eco-Toxicological Research, and Coastal Zone Management.

The Ministry of Environment and Physical Planning shares some of its competences with the Ministry of Economy in the areas of energy policy, energy supply and mineral resources; with the Ministry of Health in the areas of chemicals, drinking water, noise and radiation protection; with the Ministry of Agriculture, Forestry and Water Resources in the areas of soil, forestry and water protection; and with the Ministry of Internal Affairs in the areas of risk assessment and control, and civil protection. The Department for Environmental Protection and the Department for International Cooperation, bodies within the Ministry of Environment and Physical Planning, are responsible for implementation of the administrative procedures in the area of environmental protection. Other ministries also carry out some administrative procedures.

The Public Enterprise Center for Ecotoxicological Research and the Hydro Meteorological Institute carry out monitoring of the quality of surface water, ground water and air pollution. Soil contamination and radiation are monitored by the Public Enterprise Center for Ecotoxicological Research; biodiversity is monitored by the Nature Protection Institute. The Institute for Public Health and its regional health protection institutes monitor drinking water quality. The Inspectorate Department, a body within the Ministry of Environment and Physical Planning, is responsible for the supervision of implementation of legislation in the area of environmental protection.

On the local level, much authority regarding environmental policy is vested in the regional offices of the different ministries. Local governments have much less power, although they are not excluded from taking over a greater sphere of assignments, with their actual tasks determined by modest financial resources and technical facilities, excepting Podgorica. Therefore, local autonomous government involves citizens' and self-government bodies' rights to organise and manage certain public works on the basis of their own responsibility and the best interests of the local population. The municipality passes the programme of development and environmental protection, spatial and urban plans, developmental plans and programmes. Furthermore, the municipality organises and secures conditions for preservation and protection of natural assets, performing tasks of organisation, use and protection of construction land. The municipality performs tasks from its authority through its own and local community bodies and public services.

Environmental Civil Society

There are approximately 1,200 alternative, non-profit NGOs in Serbia and Montenegro, and roughly 200 of these have an environmental focus. Environmental NGOs are one of the largest and most widespread groups in Serbia and Montenegro. Their main activities include:

- awareness-raising campaigns (performed by 78 percent of NGOs);
- education (72 percent);
- conferences and meetings (69 percent);
- information dissemination (65 percent); and
- networking (62 percent).

Environmental NGOs in Serbia and Montenegro view cooperation with domestic and foreign NGOs, as well as with EU organisations, as critical to solving environmental problems. NGOs most often enter into cooperation in project implementation and campaigning, less often in lobbying and fundraising. These NGOs look for other organisations with a high level of professionalism that share their goals and ideas in order to exchange information, ideas, and experience. Cooperation assists NGOs in realising projects and initiatives, in achieving stronger public presence, and in laying the foundations for future cooperation.

An electronic discussion list (volvox@recyu.org) was set up in December 2002 to serve as a tool for the exchange of information on regional environmental issues. Both the discussion list and meetings helped environmental organisations to learn about one another and the opportunities for cooperation. Several joint projects have resulted from the effort, including one with as many as 14 environmental NGOs. The success of the list has confirmed the need for communication channels.

State of Regional and Cross-border Cooperation

Serbia and Montenegro continue its active participation in regional initiatives, notably the South Eastern Europe Cooperation Process (SEECP), the Stability Pact for South Eastern Europe, the Central European Initiative, the Adriatic-Ionian Initiative, and Initiative Tisa.

In April 2003, Serbia and Montenegro joined the Black Sea Economic Cooperation Council and ratified the International Commission for the Protection of the Danube River. The final conference of the Working Union of Danube countries took place in Belgrade in October 2003. A framework agreement was also signed on the regulation of the Sava River. Serbia and Montenegro actively participated in the Interim Sava Commission, as well as in the International Commission for the Sava River Basin, which was recently constituted in Zagreb.

In May 2005, a memorandum of understanding was signed with Albania in the area of environmental protection. The Republic of Serbia and Bosnia and Herzegovina cooperate on a transboundary project on the Neretva Delta under the REReP programme. There is an initiative for the conclusion of an agreement on cooperation with Croatia and Bosnia and Herzegovina in protection from catastrophes and natural disasters.

Preparations are being made for the signing of an agreement on cooperation between the Republic of Serbia and Croatia. Recently the Agreement on Foundation of Joint Committee for Natural Wealth Management and for Cooperation in Natural and Other Catastrophes was signed in Dubrovnik. The signatories are Dubrovnik (the Neretva District and the city of Dubrovnik), the municipality of Herceg-Novi, and the municipality of Trebinje.

Serbia and Montenegro and the former Yugoslav Republic of Macedonia have signed three agreements in the area of environmental protection:

- the Agreement between the Federal Government of the Federal Republic of Yugoslavia and the Government of the Republic of Macedonia in the Area of Environmental Protection, signed on July 19, 2002 (with ratification in progress);
- the Agreement between the Federal Government of the Federal Republic of Yugoslavia and the Government of the Republic of Macedonia in the Area of Plant Protection and Plant Quarantine (signed on April 23, 1997, and entered into force on March 10, 1998); and
- in May 2005, the formation of a mixed committee for cooperation in the area of environmental protection was agreed.

With Slovenia, an agreement was concluded between the Federal Government of the Federal Republic of Yugoslavia and the Government of the Republic of Slovenia on Cooperation in the Area of Plant Quarantine and Plant Protection (signed on June 18, 2002).

There are plans for signing an agreement on cooperation in the field of environmental protection between the Republic of Serbia and Hungary. The Republic of Serbia also participates in the Neighbourhood Programme with Hungary and Romania.

There are preparations for the signing of an agreement on cooperation in the field of environmental protection between the Republic of Serbia and Bulgaria. Two ministries competent for environmental protection, from the Repbulic of Serbia and Bulgaria, signed a memorandum on establishing Stara Planina, a transboundary nature park. There are plans for signing an agreement on cooperation in the field of environmental protection between the Republic of Serbia and Romania, as well as an agreement on cooperation and mutual assistance in emergencies.

Serbia and Montenegro is a signatory to the Convention on Biological Diversity (1992) and the Convention on Trade in Endangered Species of Wild Fauna and Flora (1973), ratifying both treaties in 2001.

State of Environmental Health Threats and Loss of Biodiversity

In the past decade, environmental health issues have not had top priority in Serbia and Montenegro, while political, social and economic issues have dominated. Significant polluters are the mining industry; industrial

facilities in the petrochemical, chemical and heavy industries; thermal power plants; heating; and motor vehicles. Industrial production fell drastically during the past decade, contributing to the reduction of certain pollutants, but facilities still operating with inappropriate environmental standards continue to add to air, water and soil pollution. The worst environmental health problem in the Balkans is respiratory health, due to high tobacco consumption and poor ambient air quality. Unfortunately, there has never been a systematic assessment of the health effects of air pollution in Serbia and Montenegro. In general, the present levels of industrial and vehicular air pollution are in concentrations that a number of studies have associated with effects on mortality and hospital emergency admissions.

Environmental health issues should become a higher priority at all levels of government. Existing laws, regulations and standards should be better integrated, enforced and revised according to World Health Organization guidelines and other international standards and practices, such as those of the European Union. Greater horizontal coordination and harmonisation among relevant ministries and institutions is needed, as is vertical coordination between the federal government and republics, and republics and municipalities. Comprehensive environment and health action plans are essential.

The biological diversity of Serbia and Montenegro, both in terms of ecosystems and species is relatively high. With its position on the crossroads between the Balkan and the Pannonian regions, Serbia and Montenegro plays host to as many as 4082 vascular plant species and 647 vertebrate species.[5] Although the richness of the country, and threats arising would justify more, the total share of protected areas is currently only about 3.7 percent of the national territory. However there are plans to increase this by bringing new areas under protection. The main threats to biodiversity in both the Republic of Serbia and the Republic of Montenegro are habitat degradation, illegal extraction or poaching, alien invasive species and pollution from various human sources.

In the Republic of Serbia, approximately 600 plant species and 270 animal species are under various categories of threat attributed to:

- loss of natural habitats, e.g. draining swamps and clearing forests, due to the expansion of agriculture, particularly on the Pannonian Plain of northern Serbia;
- loss of habitats and species due to illegal construction, unregulated tourism, expanding transport networks and water infrastructure such as dams;
- an inadequate network of protected areas;
- degradation of forests due to excessive exploitation and lack of sustainable forest management practices that take into account biological diversity of forests and natural processes of forest renewal;
- excessive, unregulated and often illegal hunting, which especially affects large mammals and birds;
- overgrazing in some mountain areas and under-use of pastures in others, due to the high decrease in cattle and sheep;
- over-harvesting of non-timber forest products such as fungi, snails, and aromatic and medicinal plants; and
- industrial pollution and other point-source pollution affecting rivers and lakes, and unregulated, improper disposal of solid and hazardous wastes.

Although hard data is lacking for many species, indications are that biodiversity is also on the decline in the Republic of Montenegro. Convincing evidence is seen in the strong decrease of wintering bird populations, reported as a result of the International Waterfowl Census (IWC) performed on Skadar Lake. The census showed that, between 1999 and 2005, a drop of nearly 800 percent was recorded from 250,000 to 35,000. Similarly in Durmitor National Park, waterfowl species declined from 172 species before the 1990s to less than 40. The principal reasons for the biodiversity decline in Montenegro are as follows:

- loss and degradation of mountain forest habitats due to illegal logging and uncontrolled clear-cutting in mountain forests, tourism development, transport and water infrastructure;
- loss of coastal habitats and species due to rapid tourism and infrastructure development along the coast;
- excessive, unregulated and often illegal fishing and hunting;
- gravel mining in the Moraca River, the main tributary of Skadar Lake;
- pollution from wastewater discharge of the aluminium plant in Podgoriza and steelworks in Niksic, as well as from tourism and urban infrastructure;
- an insufficient network of protected areas;
- overgrazing, particularly in mountain areas; and
- over-harvesting of non-timber forest products such as fungi and snails.

ENDNOTES

1 Serbian National Environmental Strategy. Draft submitted for inter-ministerial consultation, June 17, 2005.

2 *The Developmental Directions of Montenegro as an Ecological State*, March 2001; *Agenda of Economic Reforms for Montenegro*, March 2003.

3 *Serbia and Montenegro 2005 Progress Report*, Brussels, November 9, 2005 SEC (2005) 1428.

4 Proposal for a Council Decision on the Principles, Priorities and Conditions contained in the European Partnership with Serbia and Montenegro including Kosovo as defined by the United Nations Security Council Resolution 1244 of 10 June 1999.

5 UNEP-World Conservation Monitoring Centre, 2004.

REFERENCES

ECPD. *The Sustainability strategy of the ecological state of Montenegro,* 2002.

EBRD. *2005 Transition Report.*

EC. *European Partnership with Serbia and Montenegro including Kosovo as defined by the United Nations Security Council Resolution No. 1244,* June 10, 1999.

EC. *Serbia and Montenegro 2005 Progress Report.* Brussels, November 9, 2005.

European Agency for Reconstruction official website, <www.ear.eu.int>.

UNEP-World Conservation Monitoring Centre, 2004.

World Bank. *Serbia and Montenegro Country Environmental Analysis/Environmental Sector Review,* 2003.

Agenda of Economic Reforms for Montenegro, March 2003.

The Developmental Directions of Montenegro as an Ecological State, March 2001.

National Environmental Strategy of the Republic of Serbia, 2005.

Environmental profile: **Kosovo** (territory under UN interim administration)

Introduction

The territory of Kosovo[1] is in the centre of the Balkan Peninsula. It is a small rural region of 10,887 square kilometres, with a population about 2.4 million people. Geographically, Kosovo is in the shape of a basin, surrounded by mountains and divided by a central north-south ridge into two sub-regions of roughly equal size and population. Kosovo has historically been an ethnically mixed region, with the majority in most of its 30 municipalities ethnic Albanian. A few municipalities, however, were traditionally ethnic Serbian, while others remained mixed with other minority ethnicities, including Muslim Slavs, Turks, Croats and Roma.

After the war in 1998, the territory was placed under the civil authority of the UN Interim Administration Mission in Kosovo (UNMIK) and is effectively a UN protectorate. UNMIK is authorised to exercise ultimate legislative and executive powers. The Constitutional Framework for Provisional Self-government of Kosovo divided responsibilities between UNMIK and the Provisional Institutions of Self-Government (PISG) for the purpose of developing a meaningful self-government in Kosovo pending final settlement.

General democratic elections were held in 2001 and 2004, and provisional institutions of self-government (i.e. assembly, government and president) were established. The Government of Kosovo is comprised of 13 ministries, among them the Ministry of Environment and Spatial Planning. Within the Assembly of Kosovo exists a Parliamentary Committee on Agriculture, Forestry, Environment and Spatial Planning which consists of 11 members.

According to the Law on Environment, there are two levels of competent administrative institutions on environment: the centralised Ministry of Environment and Spatial Planning and municipality authorities at the local level. The ministry implements responsibilities through:

- the Department of Environment;
- the Kosovo Environmental Protection Agency (with two institutes: the Institute on Nature Protection and the Hydrometerelogical Institute); and
- the environmental inspectorate.

Other ministries involved in environmental decision making include the Ministry of Energy and Mines; the Ministry of Agriculture, Forestry and Rural Development; the Ministry of Trade and Industry; the Ministry of Transport and Telecommunications, and the Ministry of Health.

Under UN Security Council Resolution 1244, Kosovo's participation in regional fora, and negotiation of international agreements falls under UNMIK authority. However, PISG line ministries are closely associated in these initiatives to ensure that the Kosovo government is fully capable of fulfilling its obligations under the constitutional framework for self-government. As recommended in commission communication on Kosovo's future,[2] Kosovo has continued to be an active participant in the work of the Regional Environmental Reconstruction Programme (REReP); ministry officials are involved in different regional activities, mainly in legislation enforcement and REC public participation programs. The Ministry of Environment and Spatial Planning in 2003 organised a regional environmental conference in which ministers and ministry officials from all neighbouring countries participated. After this Conference, the ministry signed memoranda of understandings with Slovenia and Turkey; a memorandum with Albania is in process.

Current Environmental Conditions

Soil, Forests, Agricultural Land

The total area of Kosovo is 10,877 square kilometres with two major plains: the Kosovo Plain and the Dukagjini Plain. The climate is characterised as continental with some Mediterranean influence in the lower areas.

Of the total area, 53 percent (585,000 hectares) is agricultural land, 41 percent (455,000 hectares) is forest and forestry land, and 6 percent is classified as "other." Around 51 percent of farmland is used for grains (i.e. corn, wheat and barley), 45 percent for pastures and meadows, 3 percent for vineyard and groves, and 1 percent miscellaneous. Of the total agricultural area, 88 percent is privately owned, while the rest is property of socially owned companies.

Agriculture contributes to 30 percent of the GDP of Kosovo, while it economically supports 60 percent of the population. Along with the forestry sector, agriculture contributes 35 percent of the GDP. The agricultural sector in Kosovo faces four major challenges:

- loss of farm land, as more than 1,000 hectares annually are transformed de facto into built areas;
- parcel fragmentation, with the amount of land available per farming household (0.5-2 hectares) low;
- industrial pollution, as agricultural land is under constant threat from polluters of all sizes, mainly through soil and water pollution; and
- a number of controlled and uncontrolled landfills in Kosovo situated in or near farming areas.

Forestland accounts for some 41 percent of the total area of Kosovo, or around 455,000 hectres (figures vary depending on the source). Of this area, 56 percent is state-owned. Illegal woodcutting together with agricultural, industrial and urban development are causes of stress on these areas. Illegal woodcutting is a particularly acute problem, as poverty compounded with electric shortages push the population to rely heavily on wood-burning for heating during winter months.

From 1999 to 2002, 1,988 hectares of trees have been planted, including white pines (*Pinus silvestris*), black pines (*Pinus nigra*) and oaks. According to the Ministry of Forestry, Agriculture and Rural Development, 185,890 cubic metres of woods were cut for firewood and technical purposes (representing 145,695 and 30,195 cubic metres, respectively) in 2002. There is no data for illegal wood cutting, but some estimates suggest that the statistics are higher than those of legal cutting.

Water

There are four river basins in Kosovo flowing into three distinct catchments areas: the Black, Aegean and Adriatic seas. Virtually no water flows into Kosovo, save the source of the Ibar, which is 30 km upstream from the border. The major towns in Kosovo are supplied mainly by reservoirs: the Gazivoda reservoir for Mitrovica; the Batllava and Grancanka reservoirs for Pristina; and the Radoniq reservoir for Djakova/ Dakovica. Other towns rely on surface water and/or groundwater.

Water quality in the lowland rivers is poor, owing to the lack of wastewater treatment and waste disposal, while the upstream rivers are mostly of high quality. Some of the main rivers downstream of larger municipalities and industries, e.g. the Sitnica River, are so heavily polluted that the water cannot be used for water supply or irrigation. Groundwater quality is also affected by pollution from untreated wastewater from municipalities and industries. Forty-four percent of the total population (and only 8.4 percent of the rural population) has access to the water distribution system. People in rural areas rely on village water-supply systems, their own wells, springs and/or surface water. Rural wells are generally in bad condition, and the water quality is poor owing to organic contamination.

There is no wastewater treatment in Kosovo, and only 28 percent of homes are connected to a sewage system. In villages and other small settlements, wastewater is disposed of in open channels, which contaminate surface water and groundwater, resulting in poor-quality drinking water from wells. As a result, there is a high incidence of water-borne diseases. Industrial wastewater is not treated either, and the effluent is discharged directly into rivers.

Recent chemical and bacteriological monitoring shows that the majority of rivers in Kosovo are polluted and may not be used even for industrial purposes prior to water treatment. While most rivers at the source are of good quality, this quickly changes when they pass through towns and industries downstream.

The demand for water in the last century has increased sixfold, i.e. at a rate twice that of population increase. Half the population relies on the public water system, while half use wells as a means of supply (Water Master Plan Kosovo, 1983). The amount of water available per household is estimated at 1,600 cubic metres per year.

According to the Report on State of Environment (2003), only 20-30 percent of the population is connected to a sewage network. The report also indicates that:

- There are no major sewage treatment plants functioning in Kosovo.
- An estimated 707,000 people (36 percent of the population) are connected to sewerage, of which 77 percent live in the main towns.
- An estimated 167,000 cubic metres of raw (sanitary) sewage is produced in Kosovo, and 50,000 in Pristina alone.
- Most of the sewage network is combined sanitary and storm sewage.
- Receiving waters are under intense strain from organic pollutants.
- A treatment plant was built in Pristina in 1975 but was abandoned.

Air

Emissions above the maximum allowable concentration values used to be common in Kosovo in the vicinity

of mining, industrial and energy complexes (e.g. as in Obiliq), as well as in larger towns such as Pristina.

Two of the most important pollution sources in Kosovo are located within or close to the city of Mitrovica and in the region of Obiliq/Pristina. Mitrovica is the site of one of the largest lead mining, smelting, refining and battery plant complexes in Europe. This poses a serious health risk due to the environmental pollution caused by lead, cadmium, zinc, copper, and toxic gases (which include sulphur dioxide, sulphur trioxide, carbon monoxide and nitrogen oxides).

Situated close to the surface lignite deposit in Obiliq are two large thermal power plants, both of which suffer from a lack of maintenance. The Western-designed Kosovo B of 600-MW capacity has filters that are working with a removal capacity of 98 percent. The filters from the Russian-designed Kosovo A are operating at a considerably reduced capacity, with removal rates between 50-80 percent. One of the 200-MW units emits about 25 tonnes of dust and ash per hour, resulting in emissions that exceed European standards for dust pollution by 74 times.

Among the air emission from the power plants are carbon dioxide (CO_2), sulphur dioxide (SO_2), nitrogen oxides (NOx) and dust, but emission levels are currently not measured. Information available from 1988 put SO_2 emissions at 47,300 tonnes per year, with dust at 78,600 tonnes per year. Because power plants are now running at much lower capacity, emissions of SO_2 and NOx are likewise lower. Dust emissions may exceed the listed value, due to poorly functioning filters at Kosovo A. All these emissions lead to a higher risk of upper and lower respiratory tract diseases, including infections and allergies.

Biodiversity

Kosovo is exceptionally rich in plant and tree species considering its relatively small area. To date, approximately 1,800 species of vascular plant species have been confirmed through field collection, and botanical experts believe that the actual number is closer to 2,500. The Kosovo and Albania Academy of Sciences recently compiled a list totalling 1,141 vascular plant species found in the combined area of the two countries. About 150-200 plant species that grow in Kosovo are found only in the Balkans, and 13 are found only in Kosovo.

Kosovo's plant diversity is the result of a complex interaction of physical factors that create a great variety of habitat conditions for plant growth. Diverse combinations of soil type, elevation, and microclimate provide a wide range of plant habitats. The factors that create favourable conditions for plant diversity in Kosovo also explain the high level of faunal diversity within this relatively small area: There are believed to be 46 mammal species in Kosovo, many with regional or global conservation importance. Amphibians and reptiles have received less scientific attention than other groups, but common species of frogs, salamanders, lizards, snakes, turtles and tortoises are known.

The current Protected Area System (PAS) covers slightly less than 5 percent of Kosovo land, including one national park, 38 natural monuments and two protected landscapes, classified according to IUCN's protected area designation criteria. The bulk of this area is in Sara Mountain National Park. A proposed new national park would more than double the PAS area, almost reaching the internationally accepted norm of 10 percent of protected land area.

Sara Mountain National Park is Kosovo's only declared national park and covers approximately 39,000 hectares in the Sara Mountains on the border with the former Yugoslav Republic of Macedonia, encompassing land from four municipalities. The park was legally created in 1986 and has since been nominated as a World Heritage Site, though this nomination is in limbo due to uncertainty over Kosovo's political status. The former administration also proposed expanding the park by 80,000 hectares into the mountains to the south. The former Yugoslav Republic of Macedonia has been reluctant to discuss coordinating management with its adjacent national park because of this uncertainty.

Sara (which can be translated as "cursed") Mountains National Park, was created to protect the outstanding plant and animal biodiversity in these mountains as well as the physical beauty of its forests, mountain peaks, rivers, and alpine lakes. It is intended to be accessible for scientific study, education, and summer and winter tourism. The biodiversity of the Sara Mountains has both Balkan and Mediterranean characteristics, making it exceptionally rich in flora and fauna, including endemics and rare species.

The area's most prominent geological feature is the spectacular 6-kilometer Rugova Canyon of the Mbushtria River, which links the lowlands up to the subalpine area via a winding road along the river. The Rugova Canyon was declared a Protected Nature Monument in 1988 by the Peje/Pec Municipal Assembly, but has not been managed or protected in a systematic way. The MESP has proposed that the Bjeshket e Nemuna/Prokletije National Park cover 50,000 hectares, including Rugova Canyon and the surrounding mountains to the border of Montenegro and Albania. This proposal was conditionally approved by the resolution of the Kosovo Parliament in mid-April 2003.

Natural monuments and protected landscapes are declared by municipal assemblies and managed by municipal governments. There are currently 38 natural

monuments covering a total of 4,867 hectares, and two protected landscapes covering 1,681 hectares. Most existing monuments are caves, water features or individual trees that have local significance because of their size, odd shape, or history.

National Environmental Priorities

In 2003, the ministry developed the Kosovo Environmental Strategy adopted by the government in July 2004. The main priorities of the government in the field of environment for next 10-year period are:

- completion of legislation for environmental protection, in harmony with existing conditions in Kosovo, gradual fulfilment of EU standards, and efficient implementation of extant legislation;
- establishment of competent capable institutions complete with human capacities and equipped to implement environmental policies, beginning with decision-making, monitoring, supervision and inspection institutions;
- provision of necessary financial and economic instruments for environmental protection in harmony with economic development, and quick establishment of eco-funds;
- gradual increase of access to clean potable water, sewage systems and waste treatment systems, and support to programmes for recycling of black waters and waste;
- establishment and functioning of an environmental monitoring network throughout Kosovo with priority to major industrial pollutant "hot spots" in Kosovo;
- rational use of natural resources such as soil, water, minerals and forest, with special attention paid to endangered species and orientation towards renewable resources;
- expansion in area and protection of natural heritage areas and those with special natural value, together with an increase in capacity for efficient management in accordance with the Rio Declaration;
- development of long-term education programmes, public awareness campaigns and support for environmentally focused scientific projects;
- support for the import of clean technologies in Kosovo in starting phases of new industries and restarting of existing industry; and
- application of the concept of energy efficiency in all sectors of energy use.

National Funds and Economic Instruments for the Environment

An environmental fund does not exist, nor is it foreseen in the framework environmental law adopted in 2003. The main opposition to creation of an eco-fund came from the Ministry of Economy and Finances after several initiatives from the Ministry of Environment and Spatial Planning. This caused stagnation in the process of forming economic instruments for environmental pollution. In 2005, the Ministry of Environment began work on the draft law on environmental funding, with work expected to continue into 2006.

Environmental legislation inherited from Yugoslavia that is not discriminatory to any ethnic group in Kosovo is declared valid for Kosovo, even though none of it is currently implemented, monitored or enforced. This also means that no measures for financing environment from economic instruments are embodied in the environmental legislation. No information is available on the extent to which environmental subsidies have been used or the potentially negative environmental impact caused by subsidies in other sectors such as transport, agriculture and energy. Economic instruments, such as air-emission non-compliance fees, water effluent charges, water pollution non-compliance fees, sewage charges and municipal waste user charges are being incorporated into the new environmental legislation that is being drafted in Kosovo.

Legislation does not offer enough incentives to economic enterprises to pay more attention to environmental protection during their activities, especially regarding the use of clean technologies or better control of existing technologies with regard to pollution prevention.

Based on the strategy document approved by the government, priorities in the field of economic instruments are:

- establishment of a fund for environmental protection (i.e. an eco-fund);
- drafting a register of measures for successful implementation of economic instruments;
- undertaking a study of possible effects of political packages, especially bills of expense for reducing pollution in each sector, consequences and legislation; and
- thorough consultation with interested parties for the sake of increasing ecological awareness and business ethics.

EU-Kosovo Relations: the Stabilisation and Association Process

The European perspective of the Western Balkans as confirmed in the Thessaloniki Declaration and the Agenda for the Western Balkans of June 2003 is also open to Kosovo.[3] The Stabilisation and Association Process Tracking Mechanism (STM) initiated by the European Commission in spring 2003 is designed to facilitate Kosovo's progress in the SAP and thus bring Kosovo closer to the European family. The European Partnership published in June 2004 formulates — as an overarching recommendation — the implementation of standards.

Kosovo adopted its Action Plan for the Implementation of the European Partnership Priorities in January 2005 and provided the commission with progress updates in April, June and September 2005.

The renewed European Partnership for Serbia and Montenegro in 2005 also includes a section on Kosovo and a separate plan addressing the priorities concerning Kosovo should be developed under the authority of the United Nations Interim Administration in Kosovo.

EU Assistance

Since 1999, community assistance to Kosovo has been provided under a variety of instruments including humanitarian aid, exceptional financial support and financing to Pillar IV of UNMIK. Since 2000, the CARDS programme has been the main financial instrument for Kosovo, with programmes mainly implemented by the European Agency for Reconstruction.

A total of EUR 51 million was allocated for Kosovo in 1999-2003 for environment. Water supply across Kosovo was in poor condition in 1999; with joint funding from Germany's Kreditanstalt fur Wiederaufbau (KFW), the agency replaced 35 kilometres of pipes and modernised over a dozen pumping stations to improve the supply of water in the Pristina and Mitrovica regions, home to 550,000 people. The agency is also working with the water companies and relevant institutions to strengthen management and ensure that funds are invested efficiently and transparently.

The EC has provided several thousand new rubbish bins, modernised dumpsites and trucks that not only collect waste but also compact it into a more manageable load. Municipal waste sites are now managed locally and several new landfills built to EU standards will steadily reduce the overall number of rubbish sites, and ensure that waste will be disposed of in a sanitary and controlled way. The EC has also stepped up a public awareness campaign that stresses the importance of protecting the environment.

A priority within the European Partnership is to "prepare a comprehensive environmental action plan particularly relating to public health issues, with a view to approximating the EU acquis." The Multi-Annual Indicative Programme 2005-2006 (MIP) identifies the need to provide further institutional development support to the water and waste sectors in Kosovo. The development of regional consolidated utility companies is a recommendation from the STM. The standards for Kosovo state that the PISG and municipalities must ensure availability of basic public services, such as utilities, without discrimination to all communities in Kosovo.

CARDS Annual Programme 2004 for Kosovo allocated EUR 2.5 million for institutional support for environmental management, and the CARDS Annual Programme 2005 allocated approximately EUR 3 million for further institutional development of the water and waste sectors.

Relations with International Financial Insitutions

The IMF has provided significant technical assistance since 1999. At the request of donors, IMF staff is assisting authorities in designing a macroeconomic policy programme, including selective quantitative and structural targets that staff could subsequently monitor.

ENVIRONMENTAL PRIORITIES IN THE 2005 EUROPEAN PARTNERSHIP'S

Short-term priorities

- To prepare the adoption and implementation of legislation on environmental impact assessment in line with the EU acquis;
- To prepare a comprehensive environmental action plan, particularly relating to public health issues, with a goal of approximating the EU acquis;
- To prepare activities to increase public awareness and civil society participation in environmental matters.

Medium-term priorities

- Adopt and implement the environmental action plan with a view to approximating with the EU acquis;
- Implement and support activities to increase public awareness and civil society participation in environmental matters.

This would not only underpin the credibility of the envisioned programme, but also facilitate the availability of donor support.

In Kosovo, the World Bank has so far had no involvement in the environment. A recent World Bank poverty assessment, however, highlighted a number of environmental risks to the population associated with industrial pollution, contaminated food and deforestation. Through the next Transitional Support Strategy, the World Bank plans to integrate environment issues into its programmes of support.

Due to the unresolved status of Kosovo, EBRD activities remain limited. The difficulties the bank faces include the failure of UNMIK to confirm the legal status of EBRD, the public sector's low borrowing capacity, and very fragmented decision making regarding private sector development. The World Bank will therefore focus on working with local banks and on assistance to the SME sector, both of which are in close cooperation with the EAR. In the infrastructure sector, the bank will continue to assist authorities in the implementation of a modern regulatory regime in the telecommunications sector that reflects best international practices, and will engage in dialogue to identify areas in the energy sector for potential technical cooperation that may lead to investments.

REReP Priority Areas

State of Legal, Political and Institutional Framework

The Assembly and Government of Kosovo shall ensure the protection of the environment by issuing strategic documentation and programmes, laws and programmes for environmental protection in special areas, provided that such strategic documents and programmes shall be in conformity with other provisions of the law on the environment. Approved laws by the Assembly in the field of environment are:

- the Law on Environmental Protection 2003;
- the Law on Air Protection 2004;
- the Law on Water 2004;
- the Law on Nature Protection 2005; and
- the Law on Waste Management 2005.

Currently in process are a draft law on noise protection, and a law on ionising radiation.

The Ministry of Environment and Spatial Planning provides environmental protection within the scope of its responsibilities as specified in UNMIK Regulation 2001/19 and amended by UNMIK Regulation 2002/5, which defines this ministry. Two main structures exist within the ministry.

First is the Department of Environment. A municipality may, to the extent it is specifically required or authorised to do so by the present law, or a provision of a subsidiary normative act issued pursuant to the present law, exercise responsibility for those environmental matters originating or likely to originate within such municipality, if such matters can be handled, controlled, prevented, financed or managed by such municipality itself.

The Kosovo Environmental Protection Agency (KEPA), established pursuant to law, is an institution that, under the authority of the ministry, carries out administrative, professional, supportive, scientific, and research tasks in the fields of environmental protection, biodiversity, nature protection zones, and hydro-meteorology. The structuring of the KEPA is in process.

The Environmental Inspectorate is responsible for carrying out the tasks which have been specifically assigned pursuant to the Law on Environmental Protection Reg. 2003/9 and secondary implementing acts pursuant to the law.

The Environmental Inspectorate supervises the sustainable management of natural resources (e.g. air, water, land, forests, mineral resources), public resources of nature (e.g. land or territory, water resources, coastal waters) and natural resources of special value (e.g. geodiversity, biodiversity, wild animals and plant life according to habitat).

The tasks, responsibilities and competences of the Environmental Inspectorate are regulated by Administrative Directive 2/2004, signed by Kosovo's prime minister.

State of Environmental Civil Society

In Kosovo today, relatively few environmental NGOs are active. Many existing environmental NGOs were dissolved during the conflict, with activities taken up by some local authorities, such as in the municipality of Podujeve, which declared it would become the first ecological town in Kosovo. Today, the picture of the environmental movement in Kosovo is getting clearer. Local environmental NGOs have established the electronic network of environmental NGOs known as Sharri.net, which possesses its own website, and the coalition for introduction and implementation of the Aarhus Convention.

Lack of environmental awareness is generally the main obstacle to developing environmental civil society in Kosovo. Public participation is underdeveloped — even in local decision making and environmental impact procedures — and public awareness and initiative with regard to environmental decision making is extremely low. This problem is exacerbated by a low level of capacity within UNMIK and PISG to educate

the public on key environmental issues, as well as high pressure on various international organisations currently operating within the territory to produce fast results at the expense of environmental considerations and public involvement in the organisation's activities.

State of Regional and Cross-border Cooperation

Regional cooperation has been significantly enhanced over the past years; the most notable progress was reached through cooperation under the Stability Pact. UNMIK and PISG have increased their participation in a wide array of Stability Pact initiatives which benefit Kosovo and promote regional integration. UNMIK has signed a free trade agreement with Albania and is in the process of negotiating with further partners.

Kosovo has actively participated in REREP activities. With the exception of regional activities under REReP, the undefined status of Kosovo has resulted in the absence of specific environmental projects. There are ideas for cross-border peace parks between Albania, Montenegro and Kosovo (Bjeshket e Nemuna), but these must be developed further.

State of Environmental Health Threats and Loss of Biodiversity

In Kosovo, the following factors affect the state of environment and human health: access to drinking water and sanitation; dust and heavy metals; other types of industrial pollution; and heavy traffic.

Only 44 percent of the total population has access to the water distribution system, and in rural areas this figure is a mere 8.4 percent. Other problems are insufficient chlorine for use in water disinfection, and no protected drinking-water sources. Health risks related to drinking water contamination include all waterborne bacteriological diseases, especially diarrhoea.

Kosovo does not have a wastewater treatment system. Only 28 percent of the population has access to a sewage system, with most of these in urban areas. For the rural population, drinking water from wells is contaminated by wastewater in many cases, resulting in a high incidence of gastrointestinal tract infectious diseases.

The many problems with urban waste collection, the non-existence of rural waste collection and the lack of sanitary landfills add to potential health risks, particularly for children playing outdoors. Waste from hospitals and clinics end up in regular bins on the streets and a potential source of infection.

Industrial pollution, especially pollution from power plants, the textile industry and agriculture, is one of the causes of respiratory diseases, which are frequent in municipalities such as Obiliq. Heavy traffic, notably in urban areas, is not only a cause of air pollution, but also results in a large number of casualties which otherwise would be avoided.

Considering its relatively small area, Kosovo is exceptionally rich in plant species. To date, approximately 1,800 species of vascular plant species have been confirmed through field collection, and botanical experts believe that the actual number is closer to 2,500. Several of these are known to be on the verge of extinction or are already locally extinct mostly due to human activity, including the intensive collection of medicinal plant species. Fourteen vascular plant species are listed as the most directly threatened, and the list of protected plant species includes 27 vascular species. Human impact on vegetation has also dramatically affected Kosovo wildlife: Many terrestrial species continue to exist only if inhabiting the more remote mountains, while many wetland and plains species are no longer seen in Kosovo.

Biodiversity in Kosovo is threatened by several direct causes driven by underlying causes such as extreme unemployment rate in rural areas, where people rely more on natural resources; increasing population density; the total lack of domestic wastewater treatment; weak enforcement of natural resource laws; and the lack of economic incentives encouraging environmentally responsible decisions. Direct threats to biodiversity include:

- over-harvesting of fuel wood, particularly in oak-dominated forests at altitudes below 800 meters;
- over-harvesting of rare medicinal plants;
- fires in rare mountain pine forests, especially in areas easily accessible to tourists;
- illegal construction and urban expansion threatening wetlands and plain habitats;
- sand and gravel mining, domestic and industrial water pollution, and solid waste disposal as major threats to aquatic ecosystems in rivers; and
- use of pesticides banned in Western Europe, a threat to some species of birds, small mammals, and insects.

ENDNOTES

1 Reference to Kosovo in this document is made in the spirit of United Nations Security Council Resolution 1244 and should be understood as a territory under UN interim administration.

2 *A European Future for Kosovo,* Communication from the Commission, Brussels, April 20, 2005.

3 Ibid.

REFERENCES

CIA. "Serbia and Montenegro" in *The World Factbook*.

EC. *A European Future for Kosovo.* Brussels, April 20, 2005.

EC. *European Partnership with Serbia and Montenegro including Kosovo as defined by the United Nations Security Council Resolution 1244 of June 10, 1999.* Brussels, November 9, 2005.

EC. *Kosovo (under UNSCR 1244) 2005 Progress Report.* Brussels, November 9, 2005.

EC Directorate-General for Economic and Financial Affairs. *The Western Balkans in Transition.*

European Agency for Reconstruction official website <www.ear.eu.int>.

Kosovo Ministry of Environment and Spatial Planning. *The State of Environment of Kosovo,* 2003.

Kosovo Ministry of Environment and Spatial Planning. *Kosovo Environmental Strategy,* 2004.

Kosovo Ministry of Environment and Spatial Planning. *State of the waste in Kosovo,* 2005.

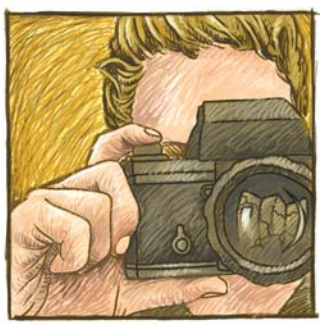
World Bank. *The Little Green Data Book,* 2004.

World Bank. *Country Environmental Analysis, Serbia and Montenegro,* 2003.

THE REGIONAL ENVIRONMENTAL CENTER FOR CENTRAL AND EASTERN EUROPE (REC) is a non-partisan, non-advocacy, not-for-profit international organisation with a mission to assist in solving environmental problems in Central and Eastern Europe (CEE). The REC fulfils this mission by promoting cooperation among non-governmental organisations, governments, businesses and other environmental stakeholders, and by supporting the free exchange of information and public participation in environmental decision making.

The REC was established in 1990 by the United States, the European Commission and Hungary. Today, the REC is legally based on a charter signed by the governments of 28 countries and the European Commission, and on an international agreement with the government of Hungary. The REC has its head office in Szentendre, Hungary, and country offices and field offices in 16 beneficiary countries which are: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, the former Yugoslav Republic of Macedonia, Poland, Romania, Serbia and Montenegro, Slovakia, Slovenia and Turkey.

Recent donors are the European Commission and the governments of Austria, Belgium, Bosnia and Herzegovina, Canada, the Czech Republic, Denmark, Estonia, Finland, Germany, Hungary, Italy, Japan, Latvia, the Netherlands, Norway, Poland, Serbia and Montenegro, Slovenia, Sweden, Switzerland, the United Kingdom and the United States, as well as other inter-governmental and private institutions.



Environmental Snapshot of South Eastern Europe

REReP Country Profiles